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ORIGINAL COMMUNICATIONS.

Agricultural Tour. By H. C. Continued from page 105. [For the New-York Farmer.]

Leaving Shelburn, we pass through a corner of Buckland, and crossing the Deerfield river again, which here makes a considerable bend round a steep and rocky promontory, we enter the town of Charlemont. Charlemont lies on each side of the Deerfield river, extending several miles along its banks; and furnishing on the eastern side a level and beautiful road, adorned with many ornamental trees, presenting many fine pieces of intervale, and lined with numerous neat and substantial dwelling houses, three churches and two taverns, with stores and mechanics' shops, and exhibiting constant indications of thrift and comfort. A pleasanter ride is seldom to be found than along the banks of the river here for six or eight miles. The principal business of the town is the raising and pasturage of neat cattle and dairy husbandry. Several farmers have flocks of sheep, but none of any great extent.

Elias Taylor, of Charlemont, a shrewd and intelligent farmer, gave me some account of his operations, which I record, because the opinions and practices of observing and intelligent husbandmen, even on familiar subjects, though they may contain nothing original, are worth remembering. He is familiar with the business of fattening sheep for the market, and, as I know from the best authority, has pursued it with great success.

His general practice has been to sell them after shearing. He is of opinion that it is more profitable to buy for this purpose wethers than ewes. He prefers merinos on account of the superior value of the fleece; dislikes Saxony for their inferior size; and thinks merinos are kept at less expense than native sheep; chooses to buy them of different ages, and puts them in his pastures, so that he may select such as are suitable, and have them come along in succession; considers five years old as the best age for fattening; chooses to feed them moderately until a short time before he designs to market them, as he thinks they will not pay the cost of high feeding for a long time; often begins to fatten in March, sheep which he designs to market immediately after shearing. His store wethers he is accustomed to keep in the yard with his cattle, upon the orts and husks which are thrown out to them. His wethers for fattening he keeps upon rowen the first part of the season; and after he begins to feed them upon corn, he takes care, he says, not to allow them to be hungry; to feed them with regularity; and never suffers them to be disturbed. His wether sheep often give four pounds of washed wool at shearing.

He mentions an experiment in feeding swine which deserves notice. He put up four swine, and fed them with potatoes and Indian meal, at the rate of three bushels of potatoes to one peck of Indian meal. He boiled the potatoes, and while hot mashed them with the Indian meal. He then added cold water, and left the mixture to ferment, and when it became sour, he fed his swine freely with it. He says that he never had his hogs thrive so well; that they gained surprisingly well; and were fed at a small expense.

The Rev. Mr. Field, whose farm is on the hill side, on the eastern bank of the Deerfield river, together with three other persons in the vicinity, have recently commenced the cultivation of mulberry trees, the raising of the silk worm, and the manufacture of silk. Some of Mr. Field's family were, on my arrival, engaged in spinning silk on a common spinning wheel for sewing silk, and which found a ready market in the neighborhood. Mr. Field has comparatively few worms; but is so well encouraged by his success, that he designs to extend his establishment to the utmost of his ability to provide accommodations for the worms. He thinks the situation particularly favorable to the raising of silk, as he has found that one peck of cocoons, containing eight hundred and twenty-two, has yielded six ounces of silk, which is equal to one and a half pound to a bushel, a much larger product than is usually stated in the books. The silk, in the form of sewing silk, produces about eight dollars per pound. Mr. Field stated a fact, probably familiar to those acquainted with the subject, that there are two kinds of worms, one which produced but one, and one which might be made to produce two crops of silk in the course of the year. Of the latter kind he had received a few from Mansfield, Conn. By the report of the Massachusetts Horticultural Society, it appears that as good silk has been obtained from worms fed on the black as from those fed on the white mulberry tree. See N. E. Farmer, Aug. 15, 1832; Vol. XI., No. 5.

Oats may be considered the best crop in Charlemont. Considerable corn is produced, but little or no wheat. The innholder, Mr. Thayer, himself an extensive and successful farmer, informed me that he considered their best business to be that of raising young stock, which, when of an age to be stall-fed, were usually sold advantageously to the farmers on Connecticut river. A good deal of pork is fattened, and principally upon potatoes and Indian meal.

The road continues for several miles to follow the course of the Deerfield river, which becomes a narrow, rapid, and shallow stream, finding its way by a very winding course over its rocky bed, among the mountains, which rise precipitously to a considerable height from the very edge of the stream, covered with a thick and impervious growth of wood to their summits, and leaving in many places not even room for the road, excepting by crossing the river; and at other spots furnishing small pieces of rich intervale, occupied by some industrious settler. In one case, where least you would expect it, you suddenly emerge from the woods, and at the foot of the Hoosic mountain you come upon one or two extensive and beautiful farms, presenting rich meadows, surrounded on all sides by precipitous and lofty mountains; and in the very bosom of the valley, almost wholly secluded from the world, presenting an aspect of remarkable neatness, comfort, and independence. Mr. King, an old man, who has since paid the debt of nature, informed me that more than thirty years ago he was among the first settlers on this spot, and few houses of more respectable appearance, or neater farms, are to be found than his.

The whole passage through this winding valley, and up the ascent of the Hoosic mountain, is extremely picturesque, curious and sublime; and though the road is in some places rather startling, especially where it passes directly on the edge of a precipice, and in one place over a treacherous bridge, under which a large slide from the side of the mountain has fallen into the river, leaving a frightful precipice of several hundred feet; yet it may be travelled with comfort and safety; and an ample compensation for any fatigue or labor in the ascent will be found in the extraordinary grandeur and magnificence of the scenery, which continues to increase in interest until you reach the summit of the Hoosic mountain. This is in Florida; and here the traveller should pause, and looking back upon his course he traces the curious passage of the Deerfield river, as it finds its very crooked way among the hills, sometimes exhibiting its glossy surface for a considerable distance, and then hiding itself from his sight among the deep forests and the dark gorges of the mountains; and he sees in the distant prospect, as far as the eye can reach,

mountains crowding upon mountains, and presenting various picturesque forms of beauty and grandeur.

The ascent of the Hoosic mountain is steep and rough, though it is passed daily by the mail stage, from the Connecticut River to the Hudson. This applies especially to the first mile; but the ascent continues for nearly three miles. A brave and enterprising settler has placed his house and barn directly on the side of the mountain, about one mile from its base; and, though few situations could be more forbidding in their general aspect, yet his buildings were of very decent appearance; and he seemed to have collected around him all the common comforts of life. It is about seven miles across the mountain from where you commence the ascent to the foot of it on the western side; but, after the first rise of about two miles, the surface is undulating, and comparatively even for some distance. Here are a number of good farms, indicating care and thrift, devoted, of necessity, to grazing, and affording pasturage of the finest description. A great many cattle were seen in them, whose appearance indicated the abundance and excellence of their feed. The haying season was just commencing (7th August); but, owing to the exposed situation, the grass was scarcely ripe for the scythe.

The descent of the Hoosic towards North Adams is even much steeper than the eastern side; by the frequent turnings of the road, advantage is taken of the nature of the ground, and the passage is rendered safe, and tolerably easy. The country, on this side of the mountain and in the neighborhood of this village, is rough and poor; abounding in limestone and marble, and miserably cultivated and inhabited.

North Adams is one of those mushroom villages, which are so thickly scattered in New-England since the encouragement given by the government to domestic labor. It abounds with factories, shops, taverns, and the usual accompaniments of a manufacturing town. Several extensive cotton establishments are already in operation, and others in the process of erection. Passing from this to Williamstown, about six miles, on the southern side of the river, in the evening, I could form but an imperfect judgment of the country; though on the other side of the river, where I passed about the same distance on my return, I found a hungry, gravelly, rocky soil, with little cultivation, thinly inhabited, and an execrable road.

The situation of Williamstown is high and healthy, with several lofty mountains in the vicinity, and presenting some magnificent scenery. The village is not compact. The appearance of the public buildings and the houses of the officers, neat and respectable; the expenses of education very small, and the college, from the number of students, and the partial accounts which I was able to obtain, in a more flourishing condition than it had been for years.

Leaving the village of Williamstown, I soon reached the Hoosic river again, (a name, by the way, for whose proper orthography I am at a loss, since on maps and guide-boards the spelling is various,) and following its course, passed into Pownal, in Vermont, a very poor specimen of the generality of the towns in that flourishing and beautiful state. The Hoosic river is a considerable and rapid stream, here finding its way among the mountains, and bordered by many extensive, rich, and beautiful alluvial meadows. On the eastern side of the river, which here runs in a northerly direction, the growth is chiefly oak; on the opposite side it is principally maple.

I found some superior and well-managed farms in this vicinity on the river; and an intelligent and very civil man, by the name of Wright, a deputy sheriff, as I afterwards learnt, and a farmer, at whose house I stopped, was kind enough to give me considerable information of the agriculture of this part of the country. My attention was arrested by the appearance of a small field, covered with the thickest mat of white clover which I had ever seen. I stopped to inquire if it had been plaistered, and found this to be the fact. Plaister, or gypsum, is applied to their oak lands with great success; but not with equal advantage to lands where the growth was maple. For this fact, if indeed it be well established, I do not pretend to account. The mode of operation of this extraordinary manure or vegetable stimulant, is still enveloped in mystery. No theory of its operation, though many plausible ones are given, has yet satisfied me. Facts are all that we have as yet got that are of any value. There is every where, in all the processes and operations of the material and intellectual world, a limit beyond which human sagacity cannot penetrate; and from which, however bold and persevering its efforts to pass may be, it is invariably driven back with the humiliating consciousness of its own impotency and ignorance. The grass and oat crops were highly luxuriant; and making due allowance for the extraordinary season, (1832,) Indian corn appeared remarkably well. The haying season had just commenced. The grass was principally Herds Grass and Red Top. The crop appeared heavy; they mowed, however, only once, as they were accustomed to feed their meadow lands closely and very late in the season, oftentimes into June, which, upon the whole, they deemed a bad practice; and they were of opinion they should get more hay by two mowings.

Large crops of oats and corn might be obtained by different management. The crops were estimated by Mr. Wright to average thirty-five bushels of oats, thirty-five bushels of corn, and two tons of hay to the acre. This, however, was probably only a conjectural estimate, as few farmers ever take the pains to weigh or measure any thing. Their produce is applied chiefly to the feeding of sheep. The yearly expense of keeping a sheep is estimated at one dollar. This likewise must in general be mere matter of conjecture. It can only be accurately determined by a careful estimate of the actual value of hay and grain; and not their market value, but their value consumed on the place, making due allowance for the valuable returns of manure; and there must enter into the estimate the labor of attendance, the value of pasture land and fencing; and then, too, a careful ascertainment of the amount of pasture required for, and the amount of hay and grain consumed by a sheep, and necessary to his profitable condition. Now these are calculations into which few farmers have the patience to enter; and one dollar per head is therefore only a conjectural estimate of the cost of keeping a sheep, formed from no accurate standard; and you can only infer from this statement, that they find their husbandry profitable or yielding a satisfactory return at the close of the year, when they can receive for the pasture occupied, and the hay and grain consumed, by a healthy sheep, the value of one dollar. It has been found by actual experiment, that seven healthy sheep will consume one ton of hay in 135 days, the average of our winter foddering—or a little more than two pounds each per day. If we value this hay at six dollars per ton, and this is certainly, considering the cost of labor, a low price, the cost of the hay consumed by each sheep would be 85 cts. We have then about 33 weeks of pasturing to provide for, which cannot be rated at less than one and a half cent per week—or say 50 cents—which would make the keeping of a sheep, even at low rates, equal to one dollar and thirty-five cents per year. I make these calculations to show how careless almost all conjectural estimates are in matters of this kind. Whether however, his pecuniary estimates are critically exact or not, if the farmer at the close of the year is satisfied with the balance of his receipts over his expenditures, if he is so fortunate as to find the balance on that side, he may be well contented with his numerous privileges and blessings, though his gains in arithmetical amount may seem small compared with those of other trades and professions.

The amount of wool obtained from their sheep averages about three pounds of fine, their sheep being principally of the merino and Saxony race; and sold this year at 42 cents per lb. A Mr. Wright, neighbor of the one above named, has a flock of 700. His annual loss by disease or accident is a very small per centage, which he attributes to the circumstance of his never housing his sheep at any season, as he was formerly accustomed to do. His opinions and experience in this matter are entirely at variance with the opinions and experience of many distinguished and successful sheep farmers; and especially of one, whose authority on this and various agricultural subjects, from his experience, education and intelligence, is entitled to great respect; I mean Mr. H. D. Grove, of Hoosic. He says, "shelter against the inclemency of the weather is almost as necessary to the health and good condition of the sheep as food itself; and for this reason stables built for that purpose are of great benefit. Not only do sheep do much better, but it is also a great saving of fodder and manure." Mr. Wright's lambs are yeaned in May. His wool is sold on the farm. The general appearance of this farmer's grounds and crops attracted my particular attention as highly creditable. The intervales furnish abundant

crops of hay and grain, and the neighboring hills afford pasturage in plenty of the best quality.

From Pownal I continued on the north-eastern side of the river through Petersburgh, in New-York, passing many beautiful tracts of rich intervale land, some of which was carefully, but a good deal most negligently managed. Much of this country was represented to me as manor land, belonging to the Van Rensselaer family; and though the leases are long, liberal, and may almost be regarded as permanent, yet it operates as a discouragment to the tenants, who are compelled to pay an annual rent, and never able to regard the land as their own. The village of Petersburgh, through which the road passes, is a dirty, miserable place in its appearance; and the whiskey distillery, at the entrance of the town, gave pretty sure indications of what was to be expected. Some factories and several industrious mechanics seemed to have established themselves here, but the place was any thing rather than inviting. On a recent journey through this place in 1834, I found a new church nearly completed, and other indications of improvement.

Petersburgh is in New-York; and a change in the general appearance of things is seen as soon as you pass the line of the State. The barracks for hay and some of the barns covered with thatch; a different construction of their farm wagons; the general use of horses instead of oxen; and houses with low piazzas in front, the Dutch style of building, indicate a population of different habits and notions from those in New-England. Many of the early settlers in this part of the country were Dutch, and though the New-Englanders have become intermixed with them, some of the usages of their ancestors are retained.

On the Hoosic river, in Petersburgh or Hoosic, I visited a very superior dairy farm owned by Mr. Tibbits, of Albany, and occupied by Mr. Bussey. Four hundred acres of intervale land lay in front of the house, adapted to the raising of grain and abundant crops of grass. At present fifty-five cows are kept on the place; and besides butter, which is marketed every week or fortnight at Troy, a cheese is made every day weighing from 80 to 90 pounds. He pays a rent of 10,000 lbs. of new milk cheese annually; and last year, besides his rent, he sold upwards of 5,000 lbs. He likewise raises a great many pigs, which he sells in the autumn. The dairy establishment was in very neat order, and managed with great industry and skill. The large cheeses presented a magnificent show; but no great pains were bestowed on the cultivation or general appearance of things out-doors. Perhaps it is too much to expect from a tenant, whose lease of ten years was about to expire, what might be looked for in an owner. Indeed, no improvements could be claimed but such as were provided for in the lease.

At Hoosic I visited the farm of Mr. Joseph Percy, distinguished for his admirable stock. His cattle are of the Improved Durham Short Horns, and descended from a bull imported into that part of the country by a Mr. Colden, and a cow imported by Mr. George Tibbits, of Albany. Mr. Percy has some of the stock, which is unmixed, and others crossed with some of our best native stock. The appearance of his cattle did him great credit, and he represents them as distinguished for the excellence of their milking qualities. He raises large numbers of swine, which graze in his pastures, and are sold in the autumn as shoats. Every thing about his establishment appeared in fine order. Several farms in his neighborhood seemed equally well cultivated and managed; and I regretted that it was not in my power to visit them. This is a rich and beautiful country. The hill farms are represented as suffering much from being ploughed, and when laid down to grass, not sufficiently seeded, so that they are liable to be severely washed by the rains.

My route lay along the northern bank of the Hoosic river, (which after a considerable bend runs in a westerly direction,) and carried me through Buskirk bridge and Schaghticoke to Stillwater. This is a beautiful and highly favored valley. The alluvions on the river are extremely fertile; and the hills, which contain a considerable admixture of clay, with slaty gravel, are highly favorable to crops of wheat, oats, peas, and clover, and not adverse to Indian corn, the product of which here is about thirty-five to forty bushels to the acre, as well as I could judge from the appearance of the fields at a later season, and from information given to me. The corn cultivated here is of the eight rowed kind; rather a small ear; and though not white, yet not of that deep yellow which we sometimes see. This corn was recommended for the small size of its cob; but I am disposed to believe, from some careful examinations, the results of which were communicated to the public through the columns of that admirably conducted journal, the Genesee Farmer, that the weight of cob in the different varieties of corn will be found to bear a pretty equal proportion to the weight of grain upon it; and in this matter, therefore, the small will be found to have no advantage over the large ears. I speak particularly of the flint corn, having made no examination of the gourd seed varieties, where I suspect the advantage will be perhaps more in favor of the large ear. There is however one advantage on the side of the corn with a small cob, which deserves much consideration. The corn with the small cob is more likely to be dry and sound, and becomes merchantable earlier than that with a large cob. The large cob retains its moisture much longer; and where the season is backward, or the corn late, or where it is harvested by being cut up at the bottom while the stalks are green, and ripened in the stack, there is danger, especially if the season be unfavorable, of its not drying sufficiently, and of its becoming mouldy in the bin. I have known serious losses to accrue from this circumstance, especially where the corn after being husked had been placed in large heaps, and the granary not well ventilated. This, in fact, is the only objection I have to what is called the Dutton corn, so much commended by Judge Buel, and of which he has exhibited at the agricultural shows some splendid samples; and also to other twelve and fourteen rowed varieties. This circumstance, as I have recently learned, has induced some very intelligent farmers in New-Hampshire, on the Connecticut river, to give up the cultivation of the Dutton corn for the eight rowed varieties. The large twelve rowed corn will, I believe, produce ordinarily more bushels to the acre than the small eight rowed corn. A good sized ear of the twelve rowed will yield more than half a pint of shelled grain; one of the small eight rowed will not exceed a gill. A field of the twelve rowed will yield generally one good ear to a stalk; a field of the small eight rowed will do no more; for I have not found, in my own cultivation, that the eight rowed is more likely to produce two ears to a stalk than the twelve rowed. Its producing two ears in either case, depends, in my opinion, something upon the selection of seed from twin-bearing stalks, but more upon wide planting; as corn which is crowded or closely planted will very rarely produce more than one good ear to a stalk; if there is a second, it is commonly imperfect, and a mere nubbin. It is obvious, then, that the twelve rowed corn will yield more than the eight rowed to the acre; but it will not yield twice as much, because the small kind will bear much closer planting than the large kinds, as the stalks and leaves are not nearly so luxuriant. The kind grown in this part of the country was remarkable for its low growth, and the ears being set very near to the ground; the stalks being in this case small, the fodder is more easily saved, but the yield of herbage is much less to the acre. It may be expected on this account to ripen earlier. The small amount of stalks and leaves is, I believe, attributable to their not manuring their corn lands, rather than to any peculiarity in the kind of corn. That high manuring in the same year of planting the corn will produce a great amount of stalk and leaf, is well known; but that the actual yield of grain is always in proportion to the luxuriance of the plant, is a point not so well established, and upon which I should be extremely glad of the opinions of observing and practical farmers. That the extraordinary luxuriance of the plant will delay the ripening of the grain is certain. Market-men near our large cities understand this, as they never manure the peas which they wish to bring forward very early; and it is a common observation, how well founded I will not say, that the very high manuring of potatoes causes them to "run too much to vine;" and the quantity of potatoes in the hill is not always in proportion to the luxuriance of the tops. Whether in such cases, if the season were long enough to admit of the perfect maturity of the plant, the yield of grain and of tubers would not correspond with the great luxuriance of the herbage or stalks, is another query which grows out of the subject, and deserves inquiry and attention, as it is a matter of great practical importance to ascertain, if possible, (which can only be done by long observation and experiment,) to what degree corn, potatoes, or other plants, may be safely and advantageously forced by manure,

with a due regard to the actual return in grain or tubers. I have spoken above of the small varieties of the eight rowed corn, though not of the smallest. The Hoosic corn is larger than what is called the Canada corn, though probably it is the same, and has acquired a larger size from successive planting in a lower latitude. The ear is about ten inches in length. A kind of eight rowed corn is grown on the Deerfield meadows, which frequently measures sixteen inches in length, and from a single ear of which I have sometimes obtained a full pint of grain. It ripens late, however, and requires early and very wide planting. On our fine alluvions, with high manuring, it yields about fifty bushels to the acre. It weighs from fifty-seven to sixty pounds to the bushel, whereas, my twelve rowed and a small eight rowed corn, which I have grown upon a thin soil, weigh from sixty to sixty-four pounds per bushel.

Another inquiry connected with this subject deserves attention. Is the color of the corn any index of its nutritious properties? This is a subject for experiment, and for chemical analysis. Between the varieties of the yellow and the white flint corns, I have made no experiments. The prejudices in favor of the one or the other in different parts of the country, where the one or the other is cultivated, are strong, and as in most other cases exactly coincident with the interests or habits of different individuals; those who grow and eat the yellow pronouncing the white tasteless, and those who grow and eat the white, with the same self-complacency, disdaining the yellow. But between the yellow flint of the northern States, and the white gourd seed of the south, I am inclined to believe there is a difference in nutritious properties in favor of the former. This opinion is formed only on a single experiment, which I made some years ago; but of which I preserved no written record, and can only state it from memory, and therefore not with that minute accuracy which I should desire in all such cases to observe. I had a cow, which I put in the barn in October; fed her abundantly with hay, and gave her four quarts of meal per day of the yellow flint corn; saved all the milk, and weighed her produce in butter, which during the week was nine pounds. The second week her feed was the same as before, excepting that the meal given her was the meal of the white gourd seed, or what goes among us by the name of Virginia, or southern flat corn. Her produce this week in butter fell short of eight pounds. The third week I fed her as before in quantity, and returned again to the meal of the yellow flint corn; and her produce in butter was as the first week, nine pounds. I took the exclusive care of her myself during the time, and can assign no cause for the difference in the product but the difference in the quality of the meal. There may have been other causes, however, and I by no means regard a single experiment as decisive on this or any similar subject. The meal in the several cases was measured, but not weighed; the actual quantity given, therefore, though it appeared the same, might not have been the same; and I record the experiment because I deem all such trials, where all the circumstances connected with them are detailed, of some value; and in the hope that it may induce others to make similar experiments in other matters as humble; for which experiments, if they speak of them, they may get nothing from their overwise neighbors but the sneers of real ignorance, indolence, and self-conceit, the usual attendant of ignorance and indolence, but from which they will derive themselves much pleasure and satisfaction. They are attended with little trouble or expense, and from them, in some cases, the most important results may be obtained.

To return from this digression—I found, as I proceeded, many excellent tracts of land, and much good cultivation. The crops of grass and oats were every where abundant, the former on the uplands being greatly benefitted by gypsum, which is generally scattered broad-cast at the rate of about a bushel to the acre. With us it is generally considered desirable to sow plaster on grass lands either in a gentle rain or just before a rain; whether any particular advantage arises from this circumstance, I know of no facts sufficient to decide. It perhaps enables the sower to cast it more evenly; it is less scattered by the wind, and settles more immediately about the plants; as well as adheres to their leaves, which is by some considered advantageous. Indeed, I know some intelligent farmers who recommend the sprinkling of plaster upon the corn blades, and the tops of the potatoes, as the best mode of its application. My own experiments, however, and those of several other farmers whom I have consulted, incline me to believe, that the best mode of its use in respect to corn and potatoes is to deposit it with the seed in the hill at the time of planting. Not so, however, with wood ashes, which when applied to corn I think should be placed on the hill near the plants; as in a case where I manured a considerable field of corn with ashes in the hill at the time of planting, to the amount of at least half a pint to a hill, well intermixed with the earth, the result was almost a total failure. In spite of all our theories, however, the operation of this wonderful manure, gypsum, is still matter of deep mystery, and its proper application can be determined only by many experiments yet to be made.

The rotation of crops, as practised by the farmers in Pittston and Hoosic, and communicated to me by an intelligent cultivator, is as follows: On the green-sward broken up they plant Indian corn; the next year oats or flax; the succeeding year wheat with clover. The land is then mowed or depastured with sheep or cattle two years; and then the same course of crops is taken. This corn is not manured; but by means of the clover is kept in good condition. The land is planted in hills about two and a half or three feet apart, and is judged to yield about forty bushels to the acre.

The land, as I approached the Hudson, became thin, and strongly predominating with sand, though favorable to Indian corn, and well suited to the renovating influence of clover and gypsum; that beneficent operation by which much of the land in Columbia county, in the neighborhood of Kinderhook, has been converted from pine barrens into highly productive fields; and according to the interesting and gratifying account of Mr Teunis Harder, given in the Quarterly Journal of Agriculture, Vol. I., No. 1, p. 32, has actually raised the value of these lands from three to sixty dollars per acre. Nearer the river the character of the soil became much better, and within a mile of the ferry I found a superior farm, in high cultivation, belonging, as I have since been informed, to a Mr. Knickerbocker. The corn crops here were very promising. I have since passed this farm, and its condition is highly creditable to its owner. I have seen, too, in this neighborhood, a herd of uncommonly fine swine; indeed, for store hogs, as many together, I have seen none superior in appearance.

I crossed the Hudson at this place in a ferry boat impelled by a horizontal wheel, moved by two horses. The horses had been several years attached to the boat, and though unable to see the shore, they measured the distance with great accuracy, stopping of their own accord at such a distance before they reached the shore, that the impetus which the boat had already received was nearly sufficient to carry it to the land, and when ordered to start again, turning it only one revolution and stopping again without direction. I could not help wishing that men were half as tractable.

Stillwater had no attractions to induce my stay. The village has few houses, and those in general of an ordinary description. The great Northern Canal passes in the rear of the town; and crossing it, I pursued my way through Malta to Dunning's street, in Ballston. The land in the neighborhood of Dunning's street is a sandy loam, very favorable to corn, of which I was told the crops were ordinarily large. Land having a large mixture of sand, and laying well to the sun, is decidedly favorable to Indian corn, besides having the recommendation of easy tillage. The corn crops here are principally applied to the fattening of swine. The inn-keeper informed me that one of his neighbors the last year fatted twenty-nine hogs, whose average weight, when dressed, exceeded four hundred pounds each.

The land is generally even until I reached Ballston Spa, before which I passed some very handsome places, and crossed the railroad, which comes from Saratoga, and at Schenectady unites with the railroad to Albany. The construction of it here is of a temporary and cheap character, the bridges being built of wood, and the rails laid on blocks of wood. It was considered that the cost of this temporary erection, as the road itself is matter of experiment, and there is an uncertainty whether the amount of freight and travel upon it would ultimately render it good property, would be more than saved in the facility which it would afford for the transportation of heavy materials for the construction of a more substantial road, should it ultimately be deemed expedient.

From Ballston I proceeded through Milton to Galway. The country, though not hilly, was of an undulating character, and

presented large swells of land; the crops of grass, oats, and wheat, every where luxuriant and abundant; Indian corn healthy in its appearance, but very backward on account of the peculiar season; the soil a dark loam, in which sand predominated; not very deep and rather stony. This applied particularly to Galway; and here generally the farming appeared extremely well; and what struck me as a peculiarity, as it would almost every New-Englander, and be remarked as very rare, especially in Massachusetts, the farms were generally laid out in rectangular and well-fenced lots, instead of the anomalous, zigzag, winding, and indescribable forms, which every where prevail with us.

A principal object of my journey soon presented itself at a distance of two miles, which was the farming establishment and residence of Earl Stimson, Esqr., whose dwelling house and numerous out-buildings, placed on a commanding eminence, had more the appearance of a village than the domain of a private individual. His buildings consist of a spacious dwelling house, with extensive piazzas in front, several barns and stables, very extensive sheds, a large store, a three story building for a granary, cider house, &c.: a large slaughter house, cooper's shop, potash establishment, blacksmith's shop, and smaller dwelling houses, which, with the fame connected with them, had come into his possession, and might now be said to form a part of his domicile.

The situation, being at the rectangular junction of two large roads, was favorable to the prosecution of his business as an extensive trader, and the keeper of a large hotel. The homestead includes about seven hundred acres, two hundred of which are in wood; and the rest in meadow, pasture, or under the plough. He has himself favored the public with an account of his management and cultivation, in his address to the Saratoga Agricultural Society; and an exact and detailed statement of the produce and course of crops of a certain portion of his land is given by Dr. Steele, in his survey of the agriculture of Saratoga County, in New-York, Memoirs of Board of Agriculture, Vol. II., p. 69. I shall, however, detail from recollection the accounts which I received from himself; and record such remarks as suggested themselves on the premises.

The soil is generally of a dark loam, resting upon sandstone and carbonate of lime. The analysis of this soil, as given by Dr. Steele, is subjoined:

Water,	9.5
Animal and vegetable matter,	12.5
Alumine,	17.5
Siliceous sand,	54.
Carbonate of lime,	3.
Soluble salts,	1.
Oxide of iron,	1.
	98.5
Loss,	1.5
	100.

The great roads passing through the farm, and crossing at its centre at right angles, give a straight line to all the outside fences; and the fields, every where divided into rectangular lots of eight or ten acres, are enclosed by stone walls, formed of small stones gathered from the land, and surmounted by posts and two rails. The cultivation exhibited an exemplary neatness, as in but a single instance did I remark any weeds or briars growing near the fences; and these had been recently mowed.

Mr. Stimson is highly systematical in his farming, and pursues a determined rotation of crops, beginning usually with wheat, then corn, barley, clover, and herds-grass two or three years; then frequently depastures his fields for one year; after which, they are again subjected to the plough, following the same rotation as before, excepting that corn is sometimes a first crop after the land is broken up; and flax sometimes takes the place of corn or barley in the rotation.

He manures his land once only in six years, excepting the application of plaister to his corn. He allows five loads of barn manure, and three of leeched ashes, to an acre; and this is always spread upon the surface after ploughing for the first crop, and either harrowed or ploughed in by a very light ploughing. In ploughing, he never permits the plough to go deeper than three inches; the sod is turned over flat, and then rolled, it being his great object to keep all the vegetable matter on the surface. In the ploughing for the second crop in the rotation, the sod being completely decomposed, is turned, and affords a fine soil for the ensuing crop. Though a good deal of the manure is in this way lost by evaporation, yet he considers this loss as much less than that which is occasioned by burying it under the sod. He deems leeched ashes a most valuable manure, and much to be preferred to that which is unleeched, which he considers as having a tendency at first to force the land, but in the end to impoverish it. Next to leeched ashes, he deems lime the best manure for land. The opinions of so intelligent, experienced, and successful a farmer, are certainly entitled to the highest respect, and we shall not undertake to theorize on the subject; but the subject is still matter for experiment, and deserves the most careful and philosophical investigation.

Wheat is generally the first crop in the rotation, in which case it is usually sowed in the autumn; and harrowed in at the rate of two bushels to the acre. His average crop is from thirty to forty bushels per acre. This year (1832) he has sixty acres in wheat. Of Indian corn, his average product is about five thousand bushels. He assured me that for the last ten years it had exceeded the average rate of one hundred bushels to the acre. He plants an eight rowed kind, with a small ear, on the ground where he has had wheat, in hills two feet eight inches apart each way; the places of planting being accurately marked out by a simple machine with four teeth, like a rake, and drawn by a horse, which marks the piece to be planted in one direction, and then crosses these marks at right angles. Four stalks only are left in a hill, and it is ploughed slightly, or harrowed twice. Sometimes plaister is applied to the hill, at the rate of about five pecks to an acre. He is of opinion that too much manure may be applied for any crop excepting corn. This cannot be manured too highly. Owing to the unfavorableness of the season, his corn, much of which had been planted twice, seemed quite small, and in his opinion would hardly yield him a third of a usual crop.

Potatoes are planted by him at the same distances as his corn, and on the outside of his cornfields. At the second hoeing of his potatoes, he takes pains to open the top of each hill with the foot, and to put a hoefull of dirt directly on the centre, by which means the sun is admitted to the potatoes, which he deems likely to contribute very much to the increase of the crop. This simple operation is in accordance with Mr. T. A. Knight's lately broached views of the great importance of light and air to the productiveness of the potato crop; but in a partial experiment, I have not myself perceived any sensible advantage from it. His average yield of potatoes is about five hundred bushels to an acre; and he raises yearly about two thousand bushels.

Flax is likewise a valuable crop, of which he calculates to obtain at least twenty bushels of seed, and four hundred pounds of flax; commonly more than this. His flax fields, which he was then pulling, with a platoon of sixteen men, exhibited a most luxuriant growth. After the flax is pulled and rotted, he has it cleaned and prepared for market, for two and one half cents per lb. What he usually obtains over six cents per pound for his flax, will pay for the cleaning of it. He is of opinion that it will do to repeat flax on the same land once in six years. Barley, or rye, is another crop in his usual rotation, and ordinarily follows corn. Barley he considers as much the best crop, with which to lay down his land to grass.

His plan of laying down his land to grass is to sow the grass seed at the time he sows his barley, at the rate of 3 lbs. of clover seed, and 4 qts. of Timothy or herds-grass. His crop of grass averages about two and a half tons to an acre. He feeds many of his mowing fields until the 10th of June. His grass, as I saw it, was quite ripe, and farther advanced than we are accustomed to have it at the time of mowing; and this, perhaps, accounts for his practice of cutting his grass in the morning, and housing it at night of the same day, which he informed me he frequently did. The proper time of cutting grass, as with reference to their nutritive properties, is a subject which has not received all the attention which it deserves. According to chemical analysis, some grasses are much more nutritive after their seed is perfected, than when cut in the flower. It is the reverse with other grasses. In respect, for example, to Timothy or herds-grass, (Pheum pratense,) according to Sinclair's table annexed to Davy's Agricultural Chemistry, it is said that "the nutritive powers of the straws simply therefore exceed those of the leaves in proportion as 28 to 8; and the grass at the time of flowering, to that at the time the seed is ripe, as 10 to 23; and the latter math to the grass of the flowering crop, as 8 to 10."

Mr. Stimson mows his grass land usually two years; and pastures it the ensu-

ing year. This completes his rotation of six years, and he then begins the same course again. Thus,

1, Wheat—manured.
2, Corn—plaistered.
3, Flax, Rye, or Barley.
4, Clover and Herds-grass.
5, Clover and Herds-grass.
6, Pasture.

His potatoes are usually planted round his corn fields, three or four rows on each side, so as to render it convenient to come out with a horse, and turn the plough. He puts one large or two good sized potatoes in a hill. He steeps his seed corn before planting, in a mixture of ¼ lb. of saltpetre, to 3 pints of water; and then rolls the seed in plaister.

He purchases large numbers of cattle in the fall; those which are in condition to kill, he slaughters and packs; and it is then forwarded to the New York market, where it is repacked, inspected, and fully salted, at the expense of 75 cents per barrel. The cattle not in condition for beef, he winters, and disposes of the next spring and autumn.

He kills and packs great quantities of pork, and bacons the legs. For packing his beef, he uses four quarts of salt, with some saltpetre; and for his pork, fourteen quarts of salt to each barrel, which he deems sufficient to keep it, until it is repacked in New-York. He considers this a better mode of disposing of his pork and beef, than to send his cattle on the hoof, or his pork unsalted, to market.

His preparation for his hams is 4 oz. saltpetre, 4 qts. of salt, 1 pint of molasses, 1 oz. of pearlash, to 100 wt. of meat. They are to be smoked three weeks with maple or walnut wood. Recently he slaughtered twenty hogs, whose average weight was 414 lbs. each. His hams are preserved by being sowed in paper, or coarse bags, and whitewashed, and suspended in his storehouse. He has at present 700 sheep, which he considers as a profitable stock. He has thirty cows. He has paid little attention to the improvement of his stock, selecting his cows from the numerous droves which he purchases for feeding or slaughter. He never puts his young cattle in the barn. He has large and commodious sheds for their protection; and he would always choose to have wooden floors in the sheds for them to lie upon. He chooses to keep his different kinds of stock separately from each other: his milch cows in one yard, his young cattle in another.

With his laborers he always makes a written agreement, stipulating to board them, but furnishing no ardent spirits; and requiring of them good manners and good temper; early rising; a readiness to assist in husking in the evening, and to do any extra job which may be customary on a farm; and an attendance upon public worship in their turn.

Such were a few hasty and cursory observations which occurred to me in a short but highly gratifying visit to this interesting and instructive establishment; and I beg leave to express my grateful sense of the kindness and hospitality which I received; and the politeness with which the information I sought was communicated to me. In extent, in productiveness, or in its admirable management, I have seen no individual establishment to be compared with it. In extent, I except the magnificent farm of Mr. Wadsworth, in Genesee, which is confined to grazing, and where, a few years since, for it is some time since I had the gratification of visiting it, not a bushel of wheat was raised. As a dairy farm, likewise, that of Mr. Bussey, at Hoosic; and the grand establishment of Robert Smith, Esqr., near Baltimore, where one hundred cows were soiled, are likewise before it; but I speak of it in respect to the variety of its business, cultivation, and products: and the skill, system, and success, displayed in its management.

Mr. Stimson has peculiar advantages in his abundant capital; in the profitable consumption of a large amount of his produce by means of his hotel, which is much frequented; in a most abundant supply of manure from his stables, slaughter house, piggery, and potash establishment; and in his facilities for procuring labor. But I saw no part of the process of his farming, which may not be copied by other farmers, on a smaller scale; and, especially as he does not apply a larger amount of manure to an acre than what is applied in other cases by many farmers.

The great points of difference between his own and the management of other farmers, and almost all other farmers, deserve particular attention. They consist, first, in the regular arrangement of his lots, which are all laid down upon a plan; and the management of each pursued systematically; and made matter of exact record.

Secondly, in his shallow ploughing, by which the vegetable mould is always kept in its proper place; or what he says, nature teaches is the proper place, on the surface.

Thirdly, in the incorporation of the manure with this vegetable matter, instead of burying it amongst the gravel or loam.

Fourthly, in his exact and systematic mode of planting; his corn being as regularly deposited as straight lines can make it.

Fifthly, in his economy of labor, his ploughing after breaking up the green sward, which is done by two horses, always being performed with one horse to a plough. He informed me that the last spring, with eight horses, he set eight ploughs in operation.

Sixthly, in his pursuing with each piece of land a regular rotation of crops. In this way the land is taxed but once in six years for the particular qualities in the soil, demanded by each particular crop; and by being three years in grass and clover, a new supply of vegetable matter is left upon the surface, to be turned under for its improvement, preparatory to a second rotation.

His ploughs are an improvement upon the Scotch plough, and of very easy draught. Of other utensils, I remarked none of a peculiar construction. He has a superior cider mill, and made last year from his farm five hundred barrels of cider. He has contrived a saw to go by horse power, with which he says two men, a boy, and a horse, are able to saw thirty cords of wood per day for the fire.

His men breakfast at six o'clock; dine at 12 M.; and sup when work is done at night. A large party of them were at work in the field nearly a quarter of a mile from the house, pulling flax, soon after 4 o'clock in the morning. He furnishes them a luncheon of bread and butter, or bread and cheese, in the field, at 10 o'clock, A. M., and 4 o'clock, P. M. Their drink, consisting of cider, cider and water, molasses and water, milk and water, is carried to them in the field. Above all, his farming, as well as all other of his operations, are under his constant and immediate supervision. To the inquiry, who was his foreman, his answer was, that he had no foreman; he was his own foreman. To every man was assigned his proper task, which he was expected to perform, so that the responsibility rested upon himself alone; and under this conviction, he was the more likely to be faithful. I quitted the place with a just admiration of its extraordinary management, and not without a deep surprise at the system, skill, care, and success, with which such heavy and various concerns were carried on, and a press of business maintained and conducted, under which ordinary men would have been overwhelmed and confounded; the cumbrous and complicated machinery making its gyrations and movements without dislocation, without friction, and without any sensible concussion or jarring of the moved or the moving body.

Washing Sheep. By FARMER C. [For the New-York Farmer and American Gardener's Magazine.]

The injurious effects which may be traced to the premature washing of these most useful and gentle of animals, are obvious to the careful observer, and ought, in all cases where the welfare and prosperity of farmers are so much at stake, to awaken the inquiries of the generous and humane. It falls frequently to our lot to witness farmers laying considerable claims to celebrity in their business, early in May driving their flocks to some distant stream to be washed. Whether the weather is harsh or mild, or whether the streams have become *sufficiently* warmed, or whether the sheep show uneasiness from the pressure of the fleece, is not once brought to mind. The most common answer to any of these interrogatories is, "*we have got ready to wash—we finished planting corn yesterday, and we always wash the day after we finish planting.*" As if it was as necessary to immerse the flock on that day as to arise from bed after a refreshing night's rest. After a deal of clamor of men, boys and dogs, the flock is yarded for the task, and all hands ready for business. Men standing in water up to the middle, generally wash from fifteen to thirty at a washing; and many times, after the third or fourth sheep have passed through their hands, are unable, by reason of cold, to do justice to the remaining ones they may attempt to wash. The consequence is, from twelve

to twenty are not properly disposed of. The men often suffer severely. It is the source from whence keen rheumatism and afflictive colds arise. Sheep (particularly the Saxon and Merino) can ill endure a cold bath, and it almost invariably follows, that some of the flock washed in water of a low temperature receive considerable injury, which will appear by a discharge of mucus from the nose and eyes. Sometimes dizziness and total blindness ensue; at others, inflammatory symptoms, indigestion, quickness of breathing, lopping of the ears, loss of appetite, separation from the flock, and death, are the consequences. These things are worthy the consideration of all concerned in the rearing of sheep. It should not be a circumstance of little note, because one sheep is worth but a small sum, we should be regardless of the comfort and welfare of the whole flock. Nor if we loose a half dozen or so, it is no considerable loss. But remember the whole flock is made up of single ones, and one is as liable to attack from violent or improper treatment as another; and even the whole flock may imbibe the first seeds of an incurable disease by one premature or careless exposure. Neglect in small things increases them to magnitude, and the various success of a farmer's undertakings depend much on his time and manner of bringing to perfection those schemes which his inventive imagination may adopt. Our opinion is that this operation should be omitted until there has been a succession of warm days—till the waters have become *warm*, and the sheep at noon-day seek the cooling shade, and feel a restlessness from the weight of fleece. These signs do not usually make themselves visible until some days in June. Many farmers practice shearing as soon as the sheep are dry—the third or fourth day after washing. This must certainly be an error. Time should be allowed for a return to the fleece of the oily and yolky properties which have been extracted by the process of washing. Sheep are thereby better enabled to endure the sudden change which necessarily follows the loss of fleece. The quality of the wool will not deteriorate, and the weight is materially increased. Ten bright days should be allowed to pass between washing and shearing; the sheep lying in the cleanest pastures. Rain water would certainly have preference for washing sheep, but cannot be practicable to any extent without considerable expense. Then the nearer we approach to it by means within our reach, the nearer perfection in this point we shall arrive. It is well known that water containing carbonate of lime, (and most of the waters in western New-York do,) decomposes the yolk of the wool, its natural defence. Wool often washed in calcareous water becomes more and more harsh, loses its downy softness and firmness of texture. The finest wools are most abundant in this peculiar soap-like savory substance, and where firmness of fleece is the object desirable, the strictest attention should be paid to its preservation, as it regards the health of the animal and beauty of its fleece. Most farms, or at least neighborhoods, are furnished with small streams sufficient for the business, if provided with the necessary appendages. A vat of three and an half feet depth, eight length and four breadth, costing a day's work and the materials, with a small stream constantly running in, is all that is required. Four men can wash at a time, and each man will wash one hundred and fifty sheep with less suffering than he will thirty by the common mode. (They should be provided with long leather aprons.) After a few have been washed the water will become saturated with the yolk. The lime in the water will become neutralized. The dirt will sink or flow off with the superabundant water; the wool will become cleaner than if washed in clear creek water, will lose less of that greasy property, and is consequently in a more lively and more profitable condition for market.

FARMER C.

Manlius, March 15, 1835.

Rapid Growth of a Weeping Willow—Cords of Wood to the Acre—Produce of Corn with Top Stalks, Cut and Uncut. By AN OLD SUBSCRIBER. [For the New-York Farmer.]

February 14, 1835.

MR. FLEET:—In the spring of 1827, I put out a weeping willow, and have taken the pains to measure its body, one foot from the ground, every year since. As the growth of this tree may encourage others who are in want of shade, to set out trees, I will give you a copy of my record, for the Farmer.

1828,	7	inches in circumference.
1829,	14	" "
1830,	23	" "
1831,	35	" "
1832,	46	" "
1833,	51	" "
1834,	60	" "

For the last two or three years the shade has been useful for horses, or for a carpenter's work-bench. The spread of top is, in one direction, forty feet, and in the opposite, thirty-five feet. It would probably have been forty both ways, but for the proximity of another tree, which has arrested the growth of the limbs. I have moreover a row of willows, in which almost every tree is making growth nearly as rapid as the one above described. These facts speak a language which all can understand, and recommend a course which none should decline to pursue. Why, sir, a man of seventy years might set out a tree of this description, and live to pass many a summer under its shade.

There are few trees, however, which keep pace with the weeping willow. I have a very beautiful and thrifty oak near my house, which was placed there in 1816—its circumference, one foot from the ground, is three feet and one inch. The oaks in our forests do not (I think) attain this size short of twenty-five to thirty years. Apropos, at page 18 of your January number, you have an article headed "Cutting down woods," in which you recommend that this operation should be performed once in 10 to 15 years. Following the expression of your own opinion, is an extract from the Dedham Advertiser, in these words: "An experienced agriculturist informs us that he considers it as an established fact, that the same forest land which produces sixty cords of wood per acre, when cut once in twenty years, would produce ninety cords if the wood were cut three times during the same period." Perhaps you have heard, Mr. Fleet, of the children who supped on bread made (thro' mistake) from plaister of Paris, and who, in consequence of this fertilizing meal, grew so much in the course of the night, that their legs, up to the knees, were found hanging out of bed the next morning. I have heretofore considered this a rather "tough yarn;" but it certainly must yield the palm to wood which grows sixty, aye, ninety cords, in twenty years. I am at this time engaged in cutting down a thrifty piece of wood, which has been growing since 1809, or '10; and shall be well pleased if it yields 15 cords to the acre. It must be uncommonly fine wood of fifty years' growth, which will give 35 cords per acre. During the last thirty years, I have cut some hundred acres of wood, and watched the growth of as many acres of sprouts; and my advice to you is, not to cut more frequently than once in twenty years, and not to expect over three quarters of a cord per acre, for every year your wood has been growing.

Let us change the subject.

There has been a good deal said of late about the advantage derived from cutting up Indian corn tops and bottoms, in as much as the usual mode of topping was supposed to rob the ears of nourishment. Last fall I had a fine piece of corn, and in this I topped two rows adjoining to two others which at the same time were cut up, (tops and bottoms,) and stacked on the ground. The corn was (at the proper season) gathered separately—it was housed separately and shelled separately—the result being as follows:

Topped rows,	5 bush.	7 qrts,	1 pint—weight	300 lbs.
Rows cut up,	5 "	0 "	1 " — "	288 "

These are the facts. Every farmer may draw his own conclusions from them.

Your ob't serv't,

AN OLD SUBSCRIBER.

REMARKS.—The editorial remarks at page 19 are, "Large quantities of wood are brought to this city from Long Island. The owners of wood land have adopted the plan of cutting every 15 or 20 years. Six or eight is too frequent—10 to 15 *may* be the most profitable."

The benefit of frequent cutting is not only the more rapid growth, but the increased number of trees that will stand on an acre. I would inquire of "An Old Subscriber," who is the very best authority, if forest trees do not make the greatest growth of wood when from 8 to 12 inches in diameter? Will not some lands produce twice and three times as many cords, in the same time, as others? Could not the wood lands, even on Long Island, be made, by a little pains, to grow one third more trees than are now found on them? It strikes me that 15 cords are too little for 20 years.

The farm which I now occupy has considerable wood, principally on the poorest land. In consequence of the manner in which it has been cut, most of it is of very unequal size. If it had been cut clean, and the vacant places occupied with trees from seed sown or transplanted, I should expect more than 15 cords in 20 years. If wood is worth growing, it is worth care and management.

In some sections of our country, in some places in western New-York, for instance, the term cord is given to a pile of wood 38 feet long, 4 high, and 2 wide. The writer in the Dedham paper might have meant this; if so, his remarks are deserving of consideration.

I believe few or no farmers recommend cutting up the corn at the usual time of cutting the top stalks. They let it stand longer, when the whole is to be cut up at once. Had the writer of the above let his untopped corn remained eight or ten days after the other was topped before he cut it up, I presume the result would have been different. S. F.

Comparative Value of Green and Dry Wood. By S. F. [For the New-York Farmer.]

In the Appendix of the February number of the Farmer, is a long article from Porter's Chemistry, on the comparative value of fuel. It contains an interesting and useful table, which would be far more serviceable to farmers if it contained a column denoting the time which each kind of wood experimented on acquired a certain size. For the want of this information, the table affords but comparatively no data to determine the most profitable wood to grow. Take, for instance, shell-bark hickory and Lombardy poplar, the former esteemed the best, and the latter among the very poorest. One pound of dry wood of these two kinds supported a certain degree of heat the same time, six hours and forty minutes. Poplar, however, being lighter, requires a bulk nearly two and a half times greater than that of hickory to make a pound. The information wanted to determine the profit is, will the poplar grow this difference in bulk in any given time? It is very desirable that the New-York Farmer should contain some statistical facts on this subject.

In reference to the relative value of green and dry wood, I think the following extract from the article referred to is calculated to convey erroneous notions.

"If we assume," says the writer, "the mean quantity of moisture in the woods when green, as 42 per cent., the great disadvantage of attempting to burn wood in this state must be obvious; as in every 100 pounds of this compound of wood and water, 42 pounds of aqueous matter must be expelled from the wood, and as the capacity of water for absorbing heat is nearly as 4 to 1 when compared with air, and probably greater during its conversions into vapor, which must be effected before it can escape, the loss of heat must consequently be very great."

In respect to the common uses of wood, it is next to impossible to ascertain how much moisture it contains. Mr. Bull, in his experiments, dried the wood at a heat of 250 degrees. This, of course, rendered it drier than the wood consumed in our dwellings, and yet leaving a very large per centage of pyroligneous acid and other liquids. It is stated that the "difference in the actual value of fuel, as determined by the heat emitted on combustion, is mainly attributable to the carbon [or charcoal] they contain." Now, a cord of green wood contains very nearly as much charcoal as the same quantity of dry. The question, therefore, arises, Is it so very disadvantageous to attempt to burn green wood? Do observing economists pronounce it so? No; quite differently. They think it cheaper to buy green wood, and immediately cut it up, split, and put in a dry place. If a little pains is taken to stand the wood in the corner of the fireplace, or otherwise heat it before it is put on the fire, they think such wood not only lasts longer, but gives out more heat when burning. The practice of heating green wood before it is put on the fire, is on the same principle as is mentioned in the following extract from the article under consideration. "I have noticed at several glass-houses, and the practice is probably general, that the weather-seasoned pine wood is dried, or rather baked, by a stove heat, at a temperature that not unfrequently ignites it before it is used." It is very probable that if good green solid wood was served in the same way, it would be more valuable than the dry wood in some factories and furnaces. All the dry wood that goes to market contains, in addition to the ordinary moisture of the atmosphere, all that arising from exposure to storms, to shades, and to deficiency of ventilation. There is as much difference in the reputed dry wood that goes to the New-York market, as there is supposed to be between dry and green. The combustible and heating power of some of it is apparently less by fifty per cent. than other of the same kind. This is owing to many circumstances—to soil, season of cutting, mode of drying, and other causes.

On the supposition that the outside of green wood is dried or heated, or put on a hot fire, I regard the expelling of aqueous matter as too theoretical to answer much practical purpose. Indeed, it is quite possible that the fluid substances, by the decomposition taking place during the combustion of the wood, may add to the generated heat. For these and other reasons, I recommend housekeepers not to be afraid of green wood. Proper management will make it more economical than most of the dry wood found in market. S. F.

March, 1835.

EVERGREEN TREES may be safely removed when vegetation is vigorous, as in May or September. Clear all the dirt from the roots, dip the roots in water, and cover them with fine dirt intermixed with cow dung. These directions are given on the best authority.

Live Fences. By D. F. A. [For the New-York Farmer.]

MR. FLEET:—Economy in planting the morus multicaulis, as well as in the ground, and in destroying of weeds, briars, &c., occasioned by a worm fence, induced me to substitute a bank and narrow ditch, for division fences. These are well formed of the surface sod, where the rail fences stood, and the earth from the ditch (about two spades wide and deep) filled, into the middle—on the top is closely inserted brush wood of cedar boughs, red oak sprouts, &c., and among them, two feet apart, sets of the morus multicaulis, or white mulberry, are planted. The brush serves as a screen and protection—no cattle attempt to browse it, as the top is five feet high. Where I have not found it convenient to plant the mulberry, a good fence is quickly formed, by planting cuttings or roots of the common Elder; with large garden shears it is easily kept in bounds, and forms a close handsome fence, and destroys or expels many destructive insects.

Young cedars are too long growing, and generally one half dies after removal. A live fence being so much more durable, and costing less money, I am prompted to send you these remarks, particularly as mine has attracted much attention, and many declare they never saw one before.

D. F. A.

To Farmers. By FARMER C. [For the New-York Farmer and American Gardener's Magazine.]

There is a plant which has within a few years made its appearance among us which promises to do us material injury, unless its progress is speedily arrested. It is called by a variety of names, such as "*Steen-crout, eye-bright, wheat-thief, troublesome-weed,*" and some others, but known in science by the name of *Lythospermum Arvense.* It may (if at all) be observed in our wheat-fields soon after that grain is sown, and its appearance, from that time until the winter closes upon it, is much like the "*Bachelor's Button*" (*Gomphrena globosa*) of our gardens when first growing, and might be easily mistaken for it. When the refreshing showers of spring fall upon it, it shoots forward with amazing rapidity. Although it seldom arrives to a height exceeding eighteen inches, yet during all the month of April and part of May it is far above the wheat. It is at this season that its injurious influence is most predominant. It chokes out the wheat and renders worse than useless the labors of the farmer. Its dark green appearance cannot be mistaken. It so completely covers the ground that no other vegetable can stand a warfare with it. It is not easily pulled up, and to undertake to eradicate it in this manner would require more time and labor than we could well bestow, besides the uncertainty of doing it effectually. This, unlike many injurious plants, is both annual and biennial, but arrives at greater perfection when biennial, consequently spring crops are not so favorable to its growth; they are therefore better calculated to keep it in check, and finally to bring about its total annihilation. If a field of wheat has this baneful plant in it, the

grouud is unfit for another crop of wheat till it is in some way destroyed, however long it may lie in swards. The better mode is, to plough the stubble in September, again thoroughly in April and May, with a free use of the harrow after each ploughing, sow peas, barley, or oats, plant potatoes or corn, and there will be but little of it seen, and a second course of this treatment will undoubtedly destroy it entirely. FARMER C.

Manlius, March 10th, 1835.

Profit and best Varieties of Poultry, in Answer to "L." By D. F. AMES. [For the New-York Farmer.]

MR. FLEET,—I observe in the January number of the Farmer for 1835 a communication from L., requesting from me information on poultry. It is a branch of rural economy I but seldom see introduced in the pages of the Farmer, and though I acknowledge it is one of its minor appurtenances, yet I do not think it so insignificant as to be entirely unworthy of attention, for a very little care will supply in abundance those very essential articles in domestic cookery, new-laid eggs, and these too, in the middle of winter, when most people's fowls are shivering on the bare tree tops, or moping about for a warm corner. Hardy as the common dunghill fowls are, they cannot suffer this neglect and furnish the egg-basket all the time. If L., or any other of your readers, wish to have eggs, and those in plenty all the year round, they must provide a warm house for them, where they can have screen and shelter summer and winter. In bad weather the doors of the fowl-house should be closed, and the fowls confined, plenty of clean water often renewed, plenty of good food, the house kept clean, and then we may calculate on plenty of eggs. I think I hear the reader draw a long breath at all this; but pray, consider, is it such a dreadful trouble; ten minutes or less per diem will tend 200 fowls. In this manner, allowing ten hens to one cock, there would be eighteen cocks and one hundred and eighty hens; now these ought to produce an average of 90 eggs each in the year. This is giving them nine months holiday. Now then, we ought to have 16,380 eggs, which at 2 cents each would make $327 60; and I would keep them till they did fetch this. Suppose they only sell for half the money, surely this would pay for a few Albany boards, and a little time, or even if the boards were thought too expensive, faggots of cedar brush, and a little straw or sedge for thatch, would answer; these any handy man would soon form into a warm house; a few poles for perches, and a few places for nests, would complete the job. They will find all or a great part of their own food from May to November, and clear the land of grasshoppers, grubs, and other destructive insects, and by having for them a yard or enclosure communicating with the fowl-house, and with one wing clipped, they may be secured from injuring crops at seed-time and harvest. There are other modes of making poultry profitable as well as by their eggs; but as I have treated the subject at length in my "*Cottage Comforts*," I shall now only briefly recapitulate two or three varieties, for without a good stock no certain calculation can be made. The common or "*Dunghill Fowl*" need scarcely a remark; they are to be seen every where, of all colors and shapes, and having been so crossed in breeding, no dependence can be placed upon the stock; even if by chance one turns out an excellent layer, the good quality may end with her. The position set forth in our glorious constitution, "that all men are born equal," is certainly not applicable to our poultry yard—here almost every thing depends on the careful selection and continuing the stock; and in furnishing mine, I would not only take care to obtain the exact likeness, but endeavor to ascertain if it came from similar birds for previous generations. On a farm where several varieties are kept, it is almost impossible to preserve any particular breed true. I have known much disappointment ensue from inattention to this particular. Recently an acquaintance of mine purchased a stock of *Poland Fowls*, and disposed of all his others. They were very handsome, perfectly black, having the King David's crown, and large white top-knot; but behold, all the season not one perfect individual has been hatched; many came out speckled, some perfectly white, some with scarcely any top-knot; and instead of finding the old hens everlasting layers, they appear to be everlastingly barren. Probably an indiscriminate collection would produce as many eggs as the same number of any selected variety without due care, but as the most worthless consume as much food, and require as much care, as the best, it will surely be better to feed and protect good layers of large eggs, and provide something more for the table than head, neck and legs. Well-bred Poland fowls combine all these advantages, particularly the plentiful production of *large eggs*. Indeed, such is their propensity for laying, that they will not always sit; and it is usual to hatch their eggs under other fowls. Observe, these fowls ought to have a peculiar spiked comb, and five toes on each foot. Game fowls lay very early in the season, when eggs are scarce and valuable, make good mothers, and may be kept to rear the young Polanders. The large Malay are much in request; they attain an enormous size, and when dressed look more like a turkey than a chicken. My experience will not permit me to say much for their laying quality; possibly a cross with these would make an eligible variety. The white Darking are a fine description of fowls, full sized, large long body, short legs, excellent layers and nurses, but they are very scarce; they should have the fifth toe. The grotesque little Bantam will produce a very large quantity of eggs, and taking size and consumption of food into consideration, will, perhaps, after all, be found the most profitable in this particular. I am not prepared to say where fowls may be had, I have none to spare; a market purchase is hazardous, but perhaps at present the only chance. I am preparing to hatch some artificially, and may have a few Polands and Darkings to spare next fall. D. F. AMES.

P. S.—Barley and buckwheat ought to be given, with cracked corn, and gravel or sand.

Agricultural Schools for the Youth of Cities. By CIVIS. [For the New-York Farmer.]

One of the greatest services that could be rendered to society in the United States, would be the establishment of Schools where city youth might be educated for the occupation of agriculturists—from whence they might be sent forth, not to prey upon the ignorance and credulity of the community—to spread mischief and litigation through the country—nor with the potent aid of the lancet and calomel jar, licensed to thin out our scanty population, and rob the old ladies of their legitimate occupation—but with the forms and souls of men, who know how to earn an honest subsistence from the fertile soil that lies ready to reward their labor.

Let us consider the immense number of youth springing up in the shade of our larger towns, where, like vegetation in cellars, they stretch their limbs in lank, fibreless imbecility: how many are doomed to the ignoble task of hanging over counters to chaffer with females—about the price and quality of their under-garments—simpering falsehoods till they unlearn the virtue of truth.

Behold the multitudes who seek the ever-yawning portal of ruin,—the glistening bar-room! with its liquid poison gleaming serpent-like on the unwary eye—see them, their brains inflamed to madness, rushing to the hidden haunts of vice,—the gaming table and the brothel! Then, if the heart fail not from the sickening view, or if, perchance, necessity, and the close bonds of friendship, brotherhood, or dearer ties compel,—witness the early bloated, blighted, ruined victim, sink through the tottering stages of an accursed state, till the grave seems almost too pure for such a thing!

When the scene closes, and the eye rests on the pale, stricken form of the fond parent, whose countenance the quick flash of mental agony is desolating—then shudder! and ask yourself if there is no remedy for causes that lead to so much misery.

When will people learn to shake off their foolish vanity, and yield to the dreadful dictates of experience, if not to those of common sense?

Suppose a proportion of our city-born boys were sent, on approaching the age of puberty, to an Agricultural School—where a considerable part of their time might be occupied in the field or garden, performing such light tasks, under the eye of kind instructors, as their strength would allow—let them be taught all the knowledge commonly imparted at schools, but instead of confining them 10 or 12 hours bent over a desk in a close-pent noisome room, say half that time were appropriated to books, and the remainder to the combined pursuit of healthful vigor, and the practical acquirement of the noblest profession man can follow. How easy and natural seem the means, by such a course, to provide for large numbers of our youth.

After training them through the dangerous years approaching manhood, instructing them in all the knowledge neces-

sary for an enlightened practical agriculturist—inuring them to toil, and fixing in their hearts principles of political and religious truth. Send them forth; they, with the aid of parents and friends, and with the great facilities offered in the boundless fertile regions beyond us, might immediately assume the station of reputable citizens—owners of the soil, cultivated with skill and economy. How great the blessing such a prospect offers!

Many institutions have lately been established, combining manual labor with intellectual improvement, and apparently with the happiest results; philanthropists in Europe and America have made the experiment suggested here, even among the barren rocks of Switzerland, with wonderful success.

One of the great advantages connected with Agricultural Schools, would be their economy; enabling persons of very moderate means to obtain their benefits; for the labor of the pupils, being well directed, would produce, not only all the sustenance required for the consumption of the establishment, but a surplus, which might be appropriated to the compensation of teachers, and to contingent expenses.

Whether the desideratum in question is to be obtained by the co-operation of many, in the form of Societies, for the promotion of such an object, or by the concentrated energies of some gifted individual, who might offer a model for others, or by whatever means, must be a subject for future consideration.

Oberlin and Pestalozzi were men claiming no rank among the great spirits of the last age; they were humble philanthropists, whose heads and hearts were full of the benevolent purpose of raising those around them from a degraded state of suffering and ignorance, to a condition worthy of intelligent beings. Such men are to be found every where; once give the subject an impulse, and those will not be wanting who can accomplish the object in view, and satisfy the wants of society.

That Agricultural Schools, such as are here suggested, are a source of great advantage, unappreciated, as yet, in America, and peculiarly adapted to our wants, must be obvious to every reflecting mind. If this hint—by no means offered as an original one—shall be of the slightest service in awakening public solicitude on this deeply interesting subject, the writer will have gladly submitted his crude periods to the eye of the intelligent reader.

CIVIS.

Improper Influence on Hired Men in making them discontented with their Situations. By S. F. [For the New-York Farmer.]

It is difficult to secure good help on a farm; and when obtained, it is as much so to have it sufficiently permanent to be truly valuable. When a farmer has a first rate man it will soon be noised about. This and that one will quickly ascertain what wages he gets, and will either directly or indirectly intimate that they would be willing to give a little more. The circumstance of receiving an additional offer he regards as complimentary, and generally, if he remains with his original employer, he feels less necessity to exert himself; and if he is induced by the trifling additional compensation to leave, his new situation is often attended with some unpleasant circumstances, that tend to sour his mind and render him discontented. Eventually his reputation is less, and his facilities for obtaining the most desirable situations not as great.

There are a few rules which employers should observe in reference to their hired help:

1. Efforts should be made to improve their hired men by rendering them more efficient, encouraging them to exertion, from principle, and from motives of reputation, and, above all, affording them the means of mental improvement.

2. The most honorable conduct should be observed among employers—not only avoiding to offer inducements to those already having situations, to leave them, but rather to decline to employ them unless they have fully complied with the spirit of their previous engagements.

3. No countenance should be given to loiterers and hangers-on. They are almost certain to do something tending to induce you to dismiss your help, or them to leave you. They will represent to your men that their work is too hard, their wages too low, or their privileges and treatment not equal to those enjoyed by themselves and others.

4. When not engaged in work, evenings and boisterous weather, something to interest the mind should be provided, in order to make home the most desirable place. For this purpose nothing is better than a periodical paper, and interesting books. Improving and interesting reading should always be accessible on Sundays. This, in connection with the practice of regularly attending a place of worship, will greatly add to the steadiness and efficiency of hired help.

5. Written agreements should generally be made when you hire for six months, or by the year. In these something equivalent to "all *required* duties or labors on the farm" should be inserted, to prevent all murmurings when called upon to do any thing that does not exactly accord with their feelings and false notions. The wages, the time agreed upon, and a forfeiture in case either party fails in fulfilling the terms, especially in not giving a proper notice before dismissing or leaving, should be inserted. When making a bargain, let it be fully understood what you want, and what you expect. It is quite common for hired men to have their own notions how and when work should be done, and to manifest dissatisfaction if you pursue your own course. To avoid any unpleasantness of this kind, let it be understood that you hire for execution, and not for planning.

6. The use of intoxicating drinks on the farm should be prudently and positively interdicted. Nothing tends to produce dissatisfaction, and to sour the mind more, than even an occasional indulgence by those having hankering after them.

7. Employers should interest themselves in the welfare of their men—embrace opportunities to open to them brighter prospects. No sudden dismissals should be given, if they can be avoided. Give timely notice, and endeavor to procure them employment before dismissing.

In illustration of some of the above rules, I will mention an occurrence.

Last summer I commenced operations in connection with a heavy purchase, in which it was of great consequence to me, situated as I was, to have help on which full reliance could be placed. An Irishman was recommended. I drew up a contract with him, by which we were mutually to give each other a notice of at least two weeks before disannulling the bargain, or pay a month's wages. He was a very strong, active workman, just adapted to my purposes. In my absence, Madame ——, owner of extensive real estate, returned from the Springs to her residence. Those to whom she had entrusted her land failed in giving satisfaction. She immediately sent for my man, whom she had employed the previous year, ascertained what wages I gave by reading the contract, offered him more, and even threatened him with her displeasure unless he came and took lodgings in her house that very night. The man yielded to her wishes. He found it convenient to leave a substitute, whom I have with me still. Neither he nor Madame —— offered the forfeiture. I have regretted since that I did not demand and enforce it, for the sake of the example. The conduct of both of them was highly reprehensible, especially that of Madame ——. In all stations and conditions of life an honorable course of conduct is to be observed; contracts, either written or verbal, should, as far as Providence gives ability, be conscientiously and strictly fulfilled. If circumstances in relation to one party should so change that it would be extremely difficult, or a great sacrifice of interest, to comply with the terms of the engagement, the principles of honor and benevolence will ever speedily arrange matters, not only satisfactory, but often in a way that will excite the best feelings of the human heart.

S. F.

March 19, 1835.

To keep Ticks from the Flock. By FARMER C. [For the New-York Farmer.]

Generally speaking, sheep, and in particular nursing ewes, are more or less inflicted with ticks. Immediately after shearing, these ticks leave the old sheep and go to the lambs, where they find more ample covering and security to propagate their like. If at this time they are destroyed, we shall not be much more troubled with them. If not, we shall lose something in the growth of the lambs, and it will require considerable extra keep and attention to carry them safely through the first winter. One preventive of an evil, in my opinion, is better than ten remedies.

Take any convenient vessel, say a half hogshead, set it firm upon a floor, let a wide board be so placed as to make a kind of platform—one edge over the inside of the tub, to catch the droppings. Fill this vessel nearly full of tobacco water, not too strong: 10 lbs. of refuse tobacco is sufficient for an hundred or more lambs, or about a pound to six gallons of water. In five

or six days after the sheep are sheared, take the lambs one by one, dip them in the tub, lay them a moment on the platform to drain, at the same time be very careful not to let any of the liquor approach their eyes, ears, nose or mouth, the ticks will be completely killed, and the flock will not be likely to be further troubled.

FARMER C.

April 1, 1835.

How to winter an hundred and thirty Wethers. By FARMER C. [For the New-York Farmer.]

In the month of November I brought home from my "*Sheep Farm*," 20 miles south, my stock of wethers, separated 130 of the best, put them upon a meadow of 20 acres, on which there were about 30 tons of hay in stacks. I commenced feeding hay about 15th December. I fed them regularly in the morning 10 or 12 bundles of oat straw. Morning and evening as much hay as they would eat clean. They have had water, but no shelter. I have not lost one—never had a flock winter as well; and they have not eaten over 12 tons of hay. I was partly forced to this mode of wintering from not having sufficient room and shelter about my barns. I was also sensible I was not pursuing the *book farming* system. Notwithstanding all this, I challenge the country to produce a flock of the same numbers in better condition. From the success I have met with in this trial, I think I shall pursue the same course another winter with this flock.

FARMER C.

Manlius, April 2, 1835.

Inquiry as to the Curing of Tobacco. By D. F. A. [For the New-York Farmer.]

MR. FLEET:—I sowed in drills some Tobacco Seed that I had from the Seed Store, 81 Barclay st. It produced fine large plants and leaves. I gathered and dried them in the shade for the purpose of making segars; but I find some other preparation is necessary. Will you or some of your correspondents inform me how the leaves are cured? The cottage garden should produce every necessary vegetable, and furnish extras also. Tobacco I seldom use, but with many the *cents* laid out for this article in one year amount to a large sum. Would not the produce of *one's own garden* have a *superior flavor*, and *compose* the *nerves* better for keeping the "*Siller*" in the pocket?

D. F. A.

On Fermentation—in reply to S. F. By H. D. G. [For the New-York Farmer.]

Mr. Editor—I have read with much pleasure the suggestions of S. F. relative to farmers' and gardeners' work for February; but beg leave to differ with him in respect to the management of "coarse yard manure." I think it to be a waste of time and labor, to throw it into heaps for the purpose of fermentation, for corn and potatoes. My experience is, that unfermented coarse yard manures, ploughed in, have always given me a larger yield of corn and potatoes than fermented manures.

H. D. G.

Hoosic, February 20, 1835.

Extracting Oil from Oranges as a Substitute for Gas, &c. By S. D. [For the New-York Farmer.]

MR. EDITOR,—It has occurred to me that an oil might be extracted from the rinds of Oranges which would afford a light more brilliant than even gas; and as they are now so plenty, the experiment might be tried, though, to be sure, the quantity obtained might not be sufficient to make it an object, without it could be made fashionable to burn it. No light is more brilliant than that produced by forcing this oil by pressure into the flame of a lamp.

Those who have occasion to use water colors are frequently annoyed by their breaking, and by their changing color when exposed to the air; this is not the case, however, with some that have been gilt over; will not some of our American manufacturers try this method to increase the value of their productions?

S. D.

March 11, 1835.

Cultivation of the Grape Vine. By SENEX. To the Editor of the New-York Farmer:

SIR,—Believing the cultivation of the Grape Vine is, at no very distant day, to occupy an important place in American Husbandry, it gives me pleasure to observe some of your correspondents offering their remarks and opinions on the subject. In its present infant state in this country, information is much wanted, and must be very acceptable; it is therefore desirable that those engaged in this interesting pursuit, should, from time to time, mutually communicate their experience. This can be done in no way more conveniently than through your Magazine. With this view I send you some account of the fate of an experiment made here.

In 1823, a few vines from Long Island were planted in the garden here, and increased by additions from Long Island, New-York, and Albany, in each of the five or six following years. Above sixty plants, under nearly as many different names, were planted, from which twelve varieties were obtained, viz.: five white, five black or violet, and two grey; nine of the kinds ripened their fruit in September, and three never ripened properly. All the above were foreign vines. In 1825, one plant of the Isabella was obtained, which was afterwards increased by cutting. The vines generally came into bearing in the third year from planting; and for two or three years after afforded a considerable supply of fine table grapes. Their success induced me to undertake the establishment of a small vineyard, with the view of obtaining a pure wholesome wine for family use, as from the facts ascertained and made public, regarding foreign wines, the chance of obtaining a pure, unadulterated, and wholesome wine, from abroad, appeared more than doubtful. Accordingly twelve hundred plants, and about half an acre of ground, were prepared for this purpose in 1828, and ready to plant out in 1830. Of these, 1000 were foreign vines, and 200 Isabellas. The mildew, however, had taken place here in 1828 and '29, with very injurious effects, so as to create suspicions as to the propriety of using the foreign vine. These doubts were confirmed by the perusal of Maj. Adlam's Memoir, published about that time, and by ocular proof of their general failure in Pennsylvania and other places. The plants of foreign vines were therefore all thrown away, and only the 200 Isabellas planted, to which nearly 200 more were added the following season. Since that time, and especially during the last four unfavorable seasons, the foreign vines have not been worth their places in the garden. I have therefore only reserved a few of the younger and more healthy plants for future experiment.

The soil and situation of this farm, being mostly a strong clay and low lying, is far from favorable to the vine; the only spots any way favorable and convenient, being some slaty ridges of poor quality. One of these, nearly opposite the front of the house, was selected for the experiment, unfortunately having a public road running between it and the house. In 1832 the vines began to bear, and the error of presenting so tempting an object to public view was now made evident, the fruit being all stolen. In 1833 the plants bore so abundantly that several barrels of wine might have been made; but this trouble was saved—no sooner did the grapes begin to change color, than the sovereign people seemed to consider them as common property. Teamsters, and others of more fashionable aspect, would stop, and without ceremony go over the fence and hedge, and help themselves, sometimes observing, when interrupted, that it was very shabby to scruple so trifling a freedom. In this way the bushes were completely stripped before they were half ripe. Anticipating that trespasses might occasionally occur, a hedge of honey locust had been planted along two sides of it, having in view to complete it round when the success of the experiment should be ascertained, and the extent determined on. The rapid progress, and already formidable appearance of this hedge, gives me a most favorable opinion of it; and under all the circumstances, I have judged it more advisable to abandon the present spot altogether, and begin a new plantation in a less exposed situation. This was done last spring, 1834. Thus four years are lost, and all the plants, trouble and expense, by the simple circumstance of an injudicious choice of situation.

The robbing of vineyards is a grievance not likely to be of a temporary nature. In those districts of Pennsylvania where vineyards have been successfully established, it is found, as I have been lately informed, indispensably necessary to have men to watch them night and day, from the time the fruit begins to change color until the last of it is gathered, a period of about two months. This forms a very serious obstacle to the cultivation of the vine, especially on a small scale, such as farmers or others might be induced to

undertake for their own family use, the trouble and expense being too great.

A hedge of locust would certainly be a very great aid. From the experience of the small piece here which has as yet received no clipping or training whatever, I feel quite confident that a hedge of this kind, with only a little attention of training, would, in six or seven years, present a fence very difficult to go over or through. I can therefore confidently recommend the planting of a hedge of this kind as one of the first things that ought to be done in making out a vineyard. Other precautions may be necessary, such as a vigneron's or laborer's house, placed as conveniently as possible, with a good watch dog.

The only vine used in this experiment was the Isabella, which ripens here perfectly within the month of September; and in this respect it may, perhaps, be difficult to find one more suitable to this northern situation, (Saratoga county.) The Troy grape is one of the same description. The Catawba is a beautiful grape, and equally hardy, but later in maturing its fruit, which here attains the beautiful red color that gives it so fine an appearance on a table, where it is also by some preferred to the Isabella, but does not here attain the dark purple color, and rich flavor, which it acquires in Maryland and Virginia. I have lately obtained several other native varieties, which will be in bearing in two or three years, and which it is probable I may send you some account of, if I live so long. In the mean time, I shall only further add, regarding the Isabella, Troy, and Catawba, that they bear the cold of ordinary winters here with little or no injury, but that all of them are hurt more or less by severe winters, such as that of 1830-31, and sometimes killed down to the ground, as in that of 1831-32. My situation, however, is far from a favorable one.

I shall close this rather lengthy communication, by noticing a circumstance that appears to have some bearing on the cultivation of the grape vine. I allude to the temperance cause. I am a member of a temperance society, and have signed its pledge against ardent spirits, and no one can more highly estimate its importance, or more sincerely desire its success, than I do. The question of abstinence from wine is at present under discussion, and has many advocates in its favor; and so far as regards foreign wines, if they are in fact so far adulterated by ardent spirits and other ingredients as they are said to be, and if it is true that the wines of the shops are, for the most part, only whiskey and cider in disguise, then it is right to expose the imposition, and reprobate their use; but this is certainly no sufficient reason for denouncing the pure and wholesome juice of the native vine, and thereby discouraging its cultivation. Ardent spirit is in fact the citadel and great stronghold of intemperance. Destroy that, and the battle is won, as I believe. It appears a hopeless undertaking to persuade the whole community to content themselves with water. This is grasping too much, and may hurt the cause, as a law too severe is apt to defeat its object. It is going to an extreme which I think is not necessary to the success of the cause. As to the native vine, my opinion is in entire accordance with that of your correspondents R. T. and Dr. Dwight, of Hamilton College, stated pp. 117 and 228, of last volume of the Magazine, that the general cultivation of the native grape, and introduction of its pure and wholesome juice in place of the liquid poisons now in use, would greatly promote, and prove a most powerful auxiliary to the cause of temperance, and a blessing to the world.

I am yours, &c.,

Senex.

Feb. 2, 1835.

Visit to the Estate of the late John Randolph, of Roanoke. By B. P. To the Editor of the New-York Farmer.

Cardwell's Hotel, Charlotte C. H., (Va.,) March 2, 1835.

Dear Sir,—You may, perhaps, wonder I have not written you during my agreeable visit in different sections of the "Old Dominion," but I assure you there are few things in the way of horticulture, agriculture, fruit or flowers, to attract attention in winter in this section—but the great number of fine horses in this state, and the high prices obtained, as also the increasing demand, has determined me to give you a short description of some of the most prominent, with some few remarks, as I fully believe many of your subscribers could turn their attention to raising good horses with the prospect of being better remunerated than by any other branch of agriculture.

As "mine host," Mr. Cardwell, was steward and has now the entire charge of the large and extensive plantations and stud of horses which belonged to the late eccentric "John Randolph, of Roanoke," I shall begin by giving you a slight description of the plantation, which is one of the most valuable in Virginia, as also of his stud of horses, and at the same time beg you or any of your readers, who are travelling in Virginia, to ride 20 miles out of their way to see and converse with Mr. Cardwell, and they will be well paid by the numerous anecdotes of Mr. Randolph which he will entertain them with, and also cease to wonder that Mr. R. put so much property in charge, and so much confidence in one man, for I will except no man when I say he is the most gentlemanly landlord, and the most studious man to anticipate the wishes and wants of his customers, I ever met with, besides being a man possessed of good information, and, in every acceptation of the word, a gentleman; and should any person wish thorough-bred horses, I know no man in Virginia I would as soon recommend them to apply to as Wyatt Cardwell, Charlotte Court-House, Virginia.

The Roanoke is about 12 miles from Charlotte Court-House; when within a few miles of the river we entered upon the estate, which extends, bounded by the river, nearly *ten miles*, with the exception of one small plantation of about one mile, which separates the upper from the lower plantation. This princely estate was mostly inherited by Mr. Randolph, but under a mortgage (as he once observed in a public speech) of 19s. 6d. on a pound of its cost. By good management and systematic farming he paid all the mortgage, entertained his friends in a princely style, fed his slaves better than one half the free white men live in the U. S., and left a large personal estate besides.

There are about *fifteen hundred acres of bottom lands*, neatly cleared and drained in a scientific manner. There are few plantations where the eye can at one glance behold such a tract of land.

There are about 400 slaves of all ages, and of those 150 are efficient hands. Mr. R. sent nothing to market except tobacco. The slaves are fed with the corn, wheat, beef, pigs, fowls, &c.; and I will venture to say, that if certain officious "*brother Yankees*" succeed in their attempts so to construct his will as to set them at liberty, every *soul*, before they enjoy freedom one year, will wish themselves back. The crop of tobacco that year, under the active and devoted attention of Mr. Cardwell, was about 150,000 lbs.; corn, 12,500 bushels, &c. &c. There are about 300 head of cattle, and about 100 head of horses, all of the finest and purest blood in this country. Mr. R., owing to feeble health and the infirmities attendant upon advanced years, erred a little in his stock of horses, by breeding in and in too much; but since his death the stock has been carefully examined, and fifty were sold at auction, in which were included the lame, the old, and fillies, and yet the average price was upwards of $400 each. (For Mr. Cardwell's Letter to J. S. Sinclair, Esq., publisher of the Turf Register, specifying the prices, &c., see the January No., page 248, of that valuable and deservedly popular work.) The stud of horses now remaining are very valuable, and Mr. Cardwell has this season procured the beautiful bright bay stallion (that is the prominent color of Mr. R.'s horses) called *Claret*, recently imported by Mr. Js. Avery, of Greenville County, to whom the admirers of fine horses are much indebted, (for several of the most valuable now in the country were imported by him.) The produce from a cross of this horse upon the Roanoke stock will be very desirable. I saw a letter from John Wickham, Esqr., of Richmond, whose opinion is considered high authority in Virginia, in which he says, "Claret's blood I think to be the *very best in the country;* through his sire, *Partisan*, the sire of his dam, he has a double cross of Old Prunella, the Duke of Grafton's famous mare, by whose produce he is said to have made £100,000; her stock is preferred to that of any other English mare, and I think *Chateau Margaux* and *Claret* are the only imported horses that are of her blood. Mr. Randolph was a great advocate for working all his horses and brood

mares, and I think it correct, particularly where those who are employed can be depended upon. Six mares were harnessed to a waggon which $2400 would not purchase.

I must say one word regarding the residence of this distinguished man. After leaving the public road to the ferry, the approach to the house is through a dense forest nearly a mile, when you come at once to a gate, within thirty yards of which are two cottages; one low, studded with a rough piazza in front, paved with pebbles; about 40 feet long, by perhaps 20 feet wide, divided in the centre, and connected by a door; a chimney at each end. Doors opposite each other in one room, (well suited to this climate.) In the inner room was his bed; all the necessary articles of plain ancient furniture; several family portraits hung in various parts of the room, and small engravings of some distinguished men who were active under the early administration of our government. One I recognized as the late Timothy Pickering, and one I supposed to be the late Hon. Rufus King. But the books, embracing all subjects, in all languages, and all bindings, from the most simple to the richest, seemed to fill every crevice of the rooms. I am not capable, nor could quires of paper contain a description. I opened some dozens or so, and, I believe, in all saw either notes in margin or on small pieces of paper. There would be no trouble in cutting leaves, (as is often the case in large libraries,) in this. I do not even attempt to enumerate the number, but I saw on the back of one volume No. 13843. The other cottage, which appeared to be of more recent construction, was higher and more elegant in appearance; the chimney in the centre, opposite which, on one side, an entrance porch; on the other side one of corresponding size, with windows which look out upon the forest, and from which I saw within 100 yards a small mound, with two rough stones, one at each end, where are interred his remains—he having selected the spot, and had the stones drawn there long before his decease. This cottage also has two rooms, and was used in entertaining his friends, the one as a dining room, the other a parlor; the mantle-pieces marble, and furniture of richest kind; splendid engravings, and more splendid books, maps, &c. His old body servant, *Essex*, 80 years old, polite as a Chesterfield, and active as a lad of 14, together with his son John, who with Juba accompanied their master to Russia, are now in charge. Essex always had orders to entertain his master's friends if they called in his absence; and his memory was so good, he always recollected those he had once seen. But I must hasten to annex a list, taken from the newspapers, of 20 horses which are this season in various sections of this state. Having merely the advertisements to refer to, I no doubt omit many that are very superior.

The five last enumerated now belong to the estate of Mr. Randolph. Gascoigne is beautiful, and a great favorite.

Your obedient servant, B. P.

Name.	*Color.*	*Size.*	*Stand in* 1835.	*Season Price.*	*To Insure.*	*Remarks.*
American Eclipse,	Sorrel.	.....	E. Johnson's, Dinwiddie County, Virginia.	$100 00	.....	The desire to have colts from this celebrated horse seems to increase every year among the best judges of horses.
Monsieur Tonson,	.....	.....	Geo. W. Johnson's, Dinwiddie County, Virginia.	60 00	$100 00	This horse is a great favorite in Virginia. For further particulars of him, see American Turf Register.
Chateau Margaux,	Brown Bay, nearly Black.	5 ft. 3 in.	Messrs. Avery's, Greenville County.	75 00	100 00	Recently imported, and considered by the best judges as good a horse as can be produced.
Claret,	Bay.	5 ft. 2 in.	Wyatt Cardwell's, Charlotte Court House.	50 00	100 00	Foaled in 1830—his sire was Chateau Margaux, and he was imported the same time.
Hotspur,	Chesnut.	5 ft. 2 in.	John Heath, Dinwiddie County.	50 00	75 00	This horse is highly spoken of, and is grandson of Sir Archy.
Tranby,	Dappled Bay.	5 ft. 2 in.	Henrico County, at the stable of R. C. Williamson.	60 00	100 00	An imported horse—his first season in America.
Tychicus,	Chesnut.	5 ft. 1 in.	Lynchburgh.	40 00	50 00	Owned by Messrs. Tayloe.
Jackson,	Bay.	5 ft.	Halifax Court House.	25 00	40 00	A son of the celebrated horse Timoleon.
Eclipse Lightfoot,	Black.	5 ft.	Mecklenburg County.	.....	60 00	A son of American Eclipse, by Black Maria.
Carolinian,	Bay.	5 ft. 1 in.	Charlotte Court House.	30 00	50 00	A son of the celebrated Sir Archy.
Gloster,	Bay.	5 ft.	Buckingham.	20 00	30 00	A son of Sir Charles.
Hugo,	Chesnut.	5 ft. 2 in.	Fairfield.	.....	40 00	A son of Sir Charles.
Mercury,	Bay.	5 ft. 2 in.	Botetourt County.	25 00	35 00	A son of Sir Charles.
Virginian,	Sorrel.	5 ft.	Bedford County.	15 00	25 00	A son of Old Virginian.
Bussorah Arabian,	Sorrel.	.....	Powhatan County.	20 00	30 00	Imported.
James,	Chesnut.	5 ft. 3 in.	Amherst Court House.	25 00	40 00	Sire of Sir Archy.
Gascoigne,	Bay.	5 ft. 1 in.	Charlotte Court House.	25 00	40 00	Son of Roanoke, by the imported mare Lady Gascoigne.
Topaz,	Bay.	5 ft. 5 in.	Nelson Court House.	25 00	40 00	Son of Roanoke.
Wildfire,	Bay.	5 ft. 4 in.	Rockbridge County.	15 00	30 00	Son of Roanoke.
Peacock,	Bay.	5 ft. 2 in.	Mecklenburg County.	15 00	30 00	Son of Roanoke.

Remarks on the Horn Distemper. By Farmer C. [For the New-York Farmer.]

Animals of the forest, guided by the principles of instinct, regulated by the dictates of nature, and uncontrolled by man in their food, air, rest, and exercise, are seldom affected by disease, while domestic animals of all countries and climates, more directly under the control and dominion of man, are subject to a variety. There are but few instances on record of prevailing diseases among the different tribes of wild animals, while every appropriate periodical informs us of diseases and their remedies of the whole class of those more immediately under the direction and government of man. Having lately had a fine young cow of the short horn Durham breed, afflicted with the disease called Horn Distemper, and she having thoroughly recovered, I thought it would not be improper to offer for publication in your valuable journal a few remarks on the disease, and my method of its treatment. It is evident this distemper affects the internal substances of the horn, usually called the pith, insensibly wastes it, and eventually, if suffered to make its progress unmolested, leaves the horn entirely hollow. The pith is a porous, spongy bone, whose cells are covered with an unctuous matter and filled with numerous small blood vessels, is overspread with a thin membrane, appears firmly united to the head, and in a healthy animal completely fills the horn, which only serves as a sheath. In horn distemper this bone is partly, at others wholly wasted, commencing at the extremity of the pith. The usual symptoms are a general dulness of the countenance, a tardiness in moving, a formation about the eyes of a yellow viscous matter, failure of appetite, a desire to lie down, a giddiness and frequent tossing of the head, often a stiffness of the limbs is observable, and in cows the milk fails. Let the other symptoms be what they may, there is always a sudden wasting of the flesh. The horn always loses its natural heat, and a degree of coldness is manifest to the hand by grasping it firmly. When only in one horn, as is often the case, there will be a very sensible difference in the feeling. If upon examination the horn is cold, we need not doubt the presence of the malady, yet without an acquaintance with some of the preceding signs, we might not be induced to examine the horn, or suspect the evil. As soon as the discovery is made, a hole with a ten-penny nail gimblet should be immediately bored underside the horn, three or four inches from the head. If the gimblet passes through the inside without resistance, it may be bored as low as is judged the hollowness extends; this, generally, if done in season, is all that is necessary. These holes should, however, be kept open, that a free discharge may be encouraged, and a communication be kept up with the air. Bubbles are continually forming at the orifice, through which a thin fluid oozes after the horn is bored. This seems to indicate an internal fermentation. Putrid matter may be formed on the peri-

asteum, and entering into the interstices of the bone, may dissolve the oily substance, and form a fluid so putrid and corrosive as to dissolve even the bone itself. From the sensible relief that an opening into the horn gives the beast, it is more than probable that the distress manifested arises from compression, occasioned by the expansion of the putrid and confined air within, rather than from an effect produced on the blood and juices. In aggravated cases the inside of the horn should be thoroughly syringed two or three times a day with salt and water, soap suds, pepper and vinegar, or any simple cleansing material, (never apply spirits of turpentine, as the manner of some is.) If there appears to be much inflammation about the head, a moderate bleeding in the neck would be beneficial. But when the distemper has communicated its effects to the brain so as to produce a high degree of inflammation, it is much to be doubted whether any mode of treatment would afford effectual relief.

Milch cows are more liable to attack than any other description of horn cattle. It is not common among oxen; I never knew a bull to have it; steers and heifers are thought to be exempt from it under three years of age. It cannot be considered as contagious. Neat cattle are subject to a disorder commonly called Tail Sickness, which is a wasting of the bony substance of the tail, and if not cut off above where the defect reaches, often proves fatal. It frequently accompanies the horn distemper. FARMER C.

Manlius, February, 1835.

Cure for Burns. By H. D. G. [For the New-York Farmer.]

MR. EDITOR,—In the January number of your valuable Farmer you gave a receipt for burns; permit me to give you one which I have often tried with the best effects, namely: Take tar, spread it on a linen cloth, apply it to the burn, and it will give immediate relief. If the burn is not very deep, nothing else need be applied, and it will effect an entire cure. This was first told me by an old housekeeper, who had brought up a large family, and said she wished that every person knew it. H. D. G.

Hoosic, Feb. 20, 1835.

A Medicine for Young Children. By FARMER C——. [For the New-York Farmer.]

MOUSE-EAR ("Gnaphalium divicum").—This is an unpretending little plant, growing by the side of highways, on moist grounds, on common and retired places, an excellent medicine for young children afflicted with summer complaint and teething. It should be gathered in August, and secured like other herbs. It may be prepared precisely as you would a cup of tea, only it requires ten times the quantity of the plant. We recommend it on account of its mildness and certainty of effect. It is not unpleasant to the taste, and is within the reach of every good mother in this part of the country.

FARMER C——.

Manlius, February, 1835.

MADISON, Morris County, Feb 13th, 1835.

To the Editor of the New-York Farmer:

Sir,—Being a subscriber for, and a reader of your New-York Farmer and American Gardener's Magazine, I take the liberty of suggesting a few thoughts and directions on the business of farming. Its claim for a place in your magazine is correctness of sentiment, but not elegance of style.

GENERAL DIRECTIONS TO FARMERS;

OR, THE BEST MODE OF AGRICULTURE.

Have your work with March begun,
And ne'er rise later than the sun;
First, make your fences strong and high,
Nor on your bull-dog fence rely;
Turn o'er your sod, both flat and clean,
Nor leave it streaked, with balks between;
Your ground that's strongly mixed with clay,
Prepare for barley, oats, or hay;
Your light or loamy grounds will raise
The best potatoes, wheat, and maize;
Manure your ground with dung or lime,
Plough, plant, and sow, all things in time;
Don't say to boys, Go work or see,
But always say, Boys, follow me;
Work done by proxy is to pay,
To work yourself 's the better way;
Your presence, and example too,
Will do more work than three will do;
Don't spend your time in mirth or vice,
At balls, at billiards, cards, or dice;
Be economical, live plain,
It is the surest road to gain.
Should bounteous Heaven vouchsafe to smile
With rain and sunshine on your toil,
Your land will yield a bounteous store
To pay your debts, and feed the poor.
O may the Great, the Just and Good,
To whom I look for daily food,
By grace and truth teach you and I,
How men should live,—as men would die.

J. H.,
A Jersey Farmer.

Labor-saving Inventions. By S. B. [For the New-York Farmer, and American Gardener's Magazine.]

There is probably no other subject of so much importance, which has been so generally and so thoroughly discussed, without coming to any determinate conclusion, as the question whether *labor-saving inventions* are beneficial or injurious to society. It would seem as if this was one of those self-evident points, which need neither elucidation nor proof, any more than the question whether we are benefitted or injured by the light of the sun. But still, even the enlightened part of mankind are divided on this simple question; and great numbers, many of whom are highly respectable, with the celebrated Espriella at their head, are in the negative, and advance what they suppose powerful arguments; addressed, however, to the feelings of sensibility, rather than to sound reason.

They tell us that while some are born to the enjoyment of wealth, others, equally deserving, are doomed and decreed to inherit or possess nothing but poverty; that "*the poor we have always with us;*" that their only property is their faculty to labor; and that to close any door against them as laborers, is to deprive them of their only means to procure the comforts, and even the necessaries of life. They tell us, therefore, that he who invents a machine, by which one man can effect that which required the labor of fifty men, takes the bread from the mouths of the forty-nine, and dooms them to starvation. They also add a list of demoralizing effects, by turning into society a host of paupers, who are driven to dishonesty, and perhaps to stealing, to save themselves and their children from death by hunger. And, to complete the horrible picture, they represent those who have the good fortune to be employed in large manufacturing establishments, where machinery is employed, as in a still more deplorable condition. They tell us that every such establishment, where a portion of the work is done by females, is a brothel of more depraved character than Sodom or Gomorrah; that children are kept in the most wretched slavery; their minds in perfect ignorance, and their health destroyed, and their bodies and limbs distorted and maimed by cruelty; and that every such manufactory is a complete *hell upon earth*, arrayed in all the blue horrors of fire and brimstone.*

There are even some gentlemen, who are themselves engaged in manufacturing, but who have the candor to express their opinions, who acknowledge their belief, that large manufacturing establishments, with labor-saving machinery, are injurious to the poor, by depriving them of labor.

Now, the fairest way to decide the question whether these evils have their foundation in serious reality, or in a morbid imagination—whether the man whose ingenuity increases the productiveness of labor, either in the workshop or in the harvest field, ten, twenty, or even a hundred fold, effects, by so doing, a blessing or a curse to mankind—whether he deserves, at least, the thanks of mankind, or a gibbet,—is to admit, for the sake of the argument, the reality of the evils complained of, and see what would be the result, and where a contrary course would lead to.

To try this experiment, then, let us, at least in imagination, abandon the evil of our ways, and retrace our steps back to where the evil course commenced.

We will begin by attacking and trying to remedy the most formidable and serious grievances. We will shut up or destroy all the cotton and other machine-using establishments; we will burn our steamboats, fill up our canals, and break up our railroads. Let the females go back to their spinning wheels, and resume the employment of their respected grandmothers. Let the traveller, if he cannot ride in his own conveyance, go on foot, or stay at home; and the farmer make use of his own idle horses to carry his effects to market. The longer the road the better, as it will give encouragement to the poor innkeepers who are now ruined by steamboats and railroads, and he will stand a better chance to get acquainted with the world. If the avails of his load will not defray the expenses of his journey, he can keep it to home next time, till the market ceases to be glutted, and the price rises.

That wicked labor-killing machine, the cotton gin, has no need to be destroyed; the spinning and weaving machines are

* This is but a faint and partial outline of the picture drawn in the celebrated letters of Espriella which have been read with avidity on both sides the Atlantic.

put at rest, the gin will die a natural death.

All this, however, would not be a title page, much less a preface, to the great work of reform which must follow, if the principle on which we have started is correct. But that we may not go on too rashly, let us take a slight view of what will be the effect of proceeding thus far.

The farmer's daughters, who now seldom work in cotton or woollen factories, generally did their own spinning before machinery was employed; and, if that is put at rest, will do it again. Probably not one female in five, who now find steady employment, would have found it, had not machinery been introduced, or would now find it, if that were destroyed. The price of clothing, especially that worn by females, has been so reduced by labor-saving machines, that the females who are employed in manufactories can, by the avails of their labor, dress themselves to almost any degree of elegance.

Should their present employment cease, four fifths of them would be thrown into idleness; and, as clothing would rise to its former price, those who were so fortunate as to find permanent work, would only be able to clothe themselves in the coarsest and cheapest articles; the rest must be content with rags, or nothing. And to increase the mortifying distinction between the rich and the poor, those who were able would still purchase elegant dresses, at any price. We should probably have a hundred thousand females, who are now proudly earning their own living, their charms heightened by all the advantages of dress, and whose labors serve not only to enrich the nation, but frequently to assist their indigent parents, turned adrift upon the public, with no resort for subsistence but the almshouse, or a worse place.

There are now more children sent to school, in proportion to the population, than there were fifty or sixty years ago, when there were no manufacturing establishments for them to work in; and those who are now earning their living in factories, would, if turned out, as was the case then, have neither clothes to wear to school, nor money to pay for schooling.

But, besides the women and children, we have another class to dispose of, who may give us equal, if not greater trouble. There is, perhaps, in every part of the world, a portion of the human family invested by nature with inventive genius, or what is commonly called mechanical ingenuity. That unfortunate class in this country could see no charms in agriculture, as it was formerly, and as it is too much at present conducted. It afforded no prospect but hard labor, with little or no profit. They could not apply their minds or their bodies to this with persevering energy, and were therefore in most cases poor, and generally considered idlers and drones in society.

But the demand for machinery opened a new field, suited to the genius of these men, and brought their hitherto useless talents into requisition. Many of these have gained a respectable competency, and some even wealth. Thousands of others have since been initiated, by instruction, into that field of employment which was at first opened by native ingenuity; and are now possessed of no means to get a living, but by making, using, and regulating machinery.

As the cotton gin has now become a contraband, and consequently a dead article, the cotton planter cannot separate the seeds from his cotton for less than fifty or sixty cents per pound; but as there is no machinery to manufacture it, nobody will want it.

We shall now have given a fair earnest of our intention to proceed in the work of reform, if, upon due examination, it shall be found advisable. Let us then draw a cool and candid comparison between the states of society with and without machinery.

With machinery to manufacture clothing, we have cotton also, forming the staple article of our export trade, and the prime source of our national wealth. We have every article of clothing so reduced in price, as to come within the reach of every person of good habits and common industry; and still the profits of producing it, such as to draw into requisition talents and enterprise which would otherwise be useless, and into active circulation, capital which would lie idle, perhaps rusting in the coffers of the miser.

Instead of depriving the poor of employment, we have more than one hundred and fifty thousand men, women and children, profitably employed, and possessing all the comforts of life. No poor girl is now seen traipsing through mud and snowbroth to get a few shillings worth of spinning or knitting, by which, if she gets it, she can scarcely earn enough to keep her from starving; and no industrious poor man is obliged to fish, to hunt, or to catch clams, for want of better employment, till he loses his habits of industry.* In most of our cotton manufacturing establishments we see females, not only elegantly clad, but pursuing their business with systematic neatness aud cleanliness, rarely seen in the dwellings of the poor, and often attending their machines with a book beside them, to improve their minds, while their countenances bespeak the conscious dignity of innocence and self-satisfaction.

By means of our canals and railroads, our farmers can bring their produce to market from the remotest part of the nation, at an expense of transportation scarcely worth taking into account; the merchant can transport his goods and himself with rapidity and cheapness, and persons may now visit their distant friends, at trifling expense of time and money, who in former times would have considered themselves separated forever.

Let us now take a view of the other side of the question; and to give it all possible fairness, we will not suppose the change to take place now, on a sudden, producing, as it would, the utmost distress and confusion by the contrast; but we will go back, and draw the picture from the subject as it stood sixty years ago.

We shall find the farmer's daughters clad mostly in decent linseywoolsy of their own spinning, and through the winter and spring twirling their spinning-wheels, in the hope, if they are industrious, to get a few coarse linen sheets and pillow cases by the time they get married. The farmer and his sons, through a great part of the winter and spring, instead of preparing their implements of husbandry for future use, will be engaged every fair day, covered and choked with shives and swindling-tow, dressing flax, which would not sell for enough to pay for dressing; which time will be very much needed to thresh their grain, as they will now be deprived of a threshing machine. The girls who now work in the factories will be no where to be found, except in the dark recesses of obscurity, to which they will be driven and scattered, and

"Shrunk into the sordid hut of cheerless poverty."

One quarter, or perhaps one half, of our agricultural products will not pay for carrying to market. The farmer and his family will have no time to spend in visiting, and the mechanic will have no money to travel with, and therefore they will need no steamboats nor railroads, and the merchant, without the aid of canals, will stand an equal chance with his competitor.

A few weavers, perhaps, have been put out of employment by the introduction of the *power loom*, but more than ten times the number of ingenious men, whose talents had been useless, have found profitable employment in making them and other machinery; while the general stimulus given to business, and the change effected by the help of machinery, have rendered agriculture a more profitable and pleasing occupation than heretofore, and every industrious man, who is unoccupied, can find land on which to pursue it.

As to the brothels, and the demoralizing effects, let the unprincipled rake and the libertine, who are the best judges in the case, and who are too well acquainted with the advantages afforded them in the wretched abodes of obscure poverty, go into the manufactories, especially in the Eastern States, and see if they can find the brothels there. They will find the females the inmates of respectable boarding houses, mutually watchful as spies upon each other, and perhaps as jealous of their honor, and as proud of their reputation, as those who grace the most distinguished boarding school.

And where, then, are grounds of complaint against labor-saving inventions? Let common sense take its own time to answer the question.

But we have not done with the subject. We have only noticed a very few of the most recent and most prominent mechanical improvements. If the wiser public shall decide against us, we have pledged ourselves to pursue our retrograde march, till every labor-saving invention shall be exterminated from public use. There is no stopping place; if they are injurious now, they were so a hundred or a thousand years ago. Time can never make that right which is in itself wrong.

(To be continued.)

* These remarks are meant to apply to native Americans; not to the hordes of paupers who are transported and landed on our shores to keep them from starving.

Decomposition of Salt—Excrementitious Matter—Food of Plants, &c. By A. [For the New-York Farmer.]

MR. EDITOR,—Your correspondent, R. M. W., appears to be laboring under a mistake, both in regard to the composition and decomposition of common salt. Salt is not a muriate, but a chloride—a chloride of sodium; but it is reduced to a muriate before decomposed by potash. Common potash is a carbonate of potash, and the manner in which salt is decomposed by it is as follows: The salt being converted into a muriate of soda by dissolving it in water, double decomposition takes place on adding the potash. The carbonic acid of the potash unites with the soda of the muriate of soda, forming carbonate of soda, while the muriatic acid of the muriate of soda unites with the potash, forming muriate of potash. Both of these new products are soluble, and remain, mechanically united, in the vessel in which the experiment is made. They are easily separated by crystallization.

Most common salt is impure, containing more or less magnesia; and if R. M. W. should make the above experiment, he will perceive, on adding the carbonate of potash to the muriate of soda, that the transparency of the two liquids is immediately destroyed; and if the vessel in which he makes the experiment be allowed to stand a few minutes, a precipitation of white powder will take place. This precipitate is a carbonate of magnesia, and the only product perceptible to the eye in the experiment, in consequence of its insolubility. The circumstance of carbonate of magnesia being insoluble enables us to determine readily whether salt be pure or impure, for if it contain magnesia, on adding a solution of carbonate of potash, or carbonate of ammonia, a carbonate of magnesia is always precipitated. Salt containing magnesia suffers deliquescence on exposure to the atmosphere.

I doubt much the utility of salt as a compost, since its tendency is to prevent the decomposition both of vegetable and animal substances. Common potash is doubtless beneficial, for we know that both potash and carbonic acid form a part of the food of plants. Soda forms a considerable part of the food of marine plants, they being the source, as is well known, from whence much of the soda of commerce is derived.

In regard to the "mixing of vegetables by their roots," no satisfactory explanation can be given until we become better acquainted with vegetable physiology. That plants deposite excrementitious matter in the soil has been proved by experiment, and that all plants do not partake of the same food is justly inferred from the fact that all are not found to be composed of the same substances, though for the most part they are. I have made the same statement in previous communications. The fact that some plants will live suspended in the air for years, proves that the food of some plants is different from that of others. Two plants, species of the fig tree, have flourished in the botanical garden of Edinburgh, one for six, and the other nearly twelve years, both suspended in the air. R. M. W. will be obliged to abandon his supposition that plants live upon air, water, and carbonic acid alone, for by this hypothesis the presence of alkaline and earthy matters in plants can never be explained. All the potash of commerce is derived from the vegetable kingdom.

Your obedient servant, A.

New-York, February 14, 1835.

Agricultural Chit-Chat. By FARMER C. [For the New-York Farmer and American Gardener's Magazine.]

MR. EDITOR,—Should you consider the following conversation worthy a place in your paper, it is at your service.

Ploughman S. Good evening, Farmer C., I am glad to find you at home, and if you are at leisure shall be much gratified in talking over agricultural affairs, for to us the employment is common, and the subject interesting.

F. C. Very happy to see you—never more at leisure—and as to the subject you propose for discussion, none to me could be more pleasing.

P. S. What I first wish to come at is, how can farmers be so much benefitted by agricultural publications as many pretend? You take a farming paper, and of course will be willing to inform me in what manner you at least are benefitted.

F. C. Publications for the promotion and diffusion of useful knowledge in any branch of science or business, notwithstanding they are reprobated by some, may, if properly conducted, be rendered highly valuable to the communities in which they are circulated. *They* are the repositories of the observations of some of the most wise, eminent, and distinguished men of the country. The wide circulation by exchanges, as well as to patrons, causes the information they contain to become general among the reading class of farmers. Where the selections from each other are judiciously made, they give the opinions and practice of many of the most skilful and enlightened agriculturists of the age. Then, the pleasure derived from a knowledge of other men's opinions, even if they do not exactly coincide with my own, is, to me, often a source of profit; for it frequently happens that I receive light from an unexpected source; and I look more anxiously for my "New-York Farmer" than any paper that comes upon my table. It gives a valuable expose of the best possible methods of husbandry in all its branches. It collects from practical farmers the most approved modes of tillage, records their ideas of improvement in seeds, grain, manures, soils, &c. also their management in rearing stock. It is a channel through which the experienced can have an opportunity to interchange their sentiments on every subject connected with the business of farming.

P. S. But you know there are but very few farmers who subscribe for agricultural papers, and those who do not cannot certainly be benefitted.

F. C. They cannot be so early and directly benefitted; but the fault is wholly their own. They are continually following the "good old way," and the improvements they may *chance* to make are often wrought by dear experience; but they may be indirectly benefitted, for if they follow the course of those who apply every means of improvement, they may at a late day do a little better. Again, you recollect the last number you perused, you acknowledged it was worth treble its cost. Now my family take a lively interest in this paper; it gives the young members an early opportunity of acquiring knowledge on many scientific subjects, and I always lay it in the way of my workmen, and to them it is a source of pleasure and improvement. It has much influence, with other papers and books, in keeping them at home evenings, and a tendency to elevate them in the scale of being. And you know it ought to be the study of men who are able, to contribute all in their power to this object. It fits workmen for greater usefulness in after life; makes them more intelligent, economical, and attentive to their employer's interest.

P. S. This improving the character of hired men by means of agricultural publications is, to me, "quite a new wrinkle." But do you know of an instance?

F. C. I have known many respectable young men set out in search for places to labor. They obtain them; and those places are, in a great measure, the regulators of their moral and mental action. If it happens they fall in with one who is a bad farmer, a poor manager, one of no reading, or any taste for it, or any kind of mental improvement, there can certainly be no opportunity presented, while they remain with him, for improving their minds; and the force of this man's example, his opinions and practice, cannot fail to influence these young men to a considerable degree. You well know our neighbor, farmer A., who is worth at least $10,000, cannot read or write, and expresses a kind of pride in it; boasts of his ability to overreach any of his neighbors in a bargain; always keeps fat horses, rides in a fine carriage, pays punctually all his contracts, appears extremely well, but detests an agricultural paper. Now make a close observation of his manner of doing business; the character of his workmen, and his own sons too.

P. S. As respects his mode of doing business, if there is writing to be done, he goes to 'Squire F.; his young children read to him. But I must confess, he lacks information on many simple subjects and common-place operations, and does not seem to relish any conversation that holds the idea of improvement by books or periodicals. I have observed this long time that his workmen were not very regular in their habits, or behavior; appear coarse and clownish; some of them are hard drinkers; and there seems to be a general restlessness of character prevailing among them. His son J. is in jail for a high misdemeanor, and two of his workmen are implicated. His son P. is a hard fellow, and I opine they will altogether give the old man's pockets a hard sweat, and end their days in ——.

F. C. I will now give you the exam-

ple of young F., whom you well knew, who commenced with friend K. a rude fellow at 18. After the first year we observed a decided alteration in young F. for the better; and since that time has been very attentive to his employer's interest, and now receives $200 a year, and has the whole charge and oversight of Col. K.'s farming business. A more faithful and worthy young man can no where be found. But mark, Col. K. is at once an intelligent, reflecting man; spares no pains to improve the condition of those around him. He is free and familiar with his workmen; they respect him, and think much of his opinions. He encourages them to read and reflect; he often calls on them for their opinions respecting his plans, thereby giving them confidence in their own ability to decide; and moreover, he has always taken an agricultural paper since my acquaintance with him, and given all his workmen an opportunity of perusing it; and to this, as much as to any one thing, may be attributed his success in always *keeping* valuable workmen.

P. S. Perhaps so far you are right; but there is our neighbor, farmer S., whom every one acknowledges to be one of the best farmers in town; keeps good stock of all kinds; high fences; farm clear of foul weeds; and his tools are always in good repair; yet he has never given countenance to agricultural works of any sort.

F. C. In order that I may properly answer for this class of farmers, I shall give you a short history of farmer S. In 1803, this same farmer S. had this same 80 acres of land given to him by his father, upon which he now resides, free from incumbrance, with some considerable improvement upon it at that time. He has always maintained the character of an honest, upright, frugal, industrious man. But, sir, he has never added $100 to the value of this farm, or property, except by the common rise of real estate in the neighborhood. He is not a man of information, nor does he desire it. Now, "knowledge is power," and if he had become possessed of the knowledge he might have derived from works upon agriculture, it would have undoubtedly acted as a stimulus to greater exertion, and he would have been more wise, more wealthy, and more happy. There is yet one thing more. This disrelish for information respecting his business spreads. His evils, in this respect, are visited upon his children. A father's influence upon sons has a great effect. There is his oldest son, goes about seeking employment by day's work; he feels a kind of inferiority; he is conscious that he lacks one great thing needful;—and the second son, whom he assisted to purchase 50 acres of land, after living upon it two years, became involved, trifled it away for less than cost, when lands had risen 20 per cent. Now it is my candid opinion, that if farmer S. had given his sons the opportunity of reading works upon the employment they designed to follow, displayed a correct taste, instead of relating idle tales, their condition would have been more elevated; they would have set their mark much higher; they would have become fitted for taking the charge of large farms, and received high wages, and, with prudence, been enabled to set up for themselves, with a degree of respectability to which, under existing circumstanees, they have no ambition or qualification to arrive.

P. S. I see now how all this is; I have never before had a correct notion of these things; I had always supposed it was money thrown away if applied in buying these agricultural books and papers. There is yet one thing—do you consider Agricultural Societies of much utility?

F. C. Of this there can be no doubt, and I think I shall be able to set you right upon this subject also. In all ages, mankind have found a state of society subservient to their comfort, well-being, and happiness. Always subjected to many wants, they have universally been enabled, by an union one with another, to obtain that ready supply of necessaries, and those extra comforts, so congenial to their weal. Invariable experience has taught us, that the social bond is the greatest security against the numberless difficulties to which mankind are exposed, as well as the first and most extensive promoter of human interests. Men, united to each other by any common interest, and frequently meeting, for the purpose of advancing that interest, will be likely to accomplish almost any desirable object. *Societies*, instituted for the encouragement of any particular branch of industry, universally elevate that branch. They excite a spirit of emulation among their members, and enkindle those sparks of genius, and bring forward those energies in the ranks of competition, without which they might have been forever concealed. There can be no branch of science or industry more extensively benefitted by associations of this kind, than agriculture. An agricultural society, founded upon broad and liberal principles, with funds sufficient for its endurance, rewarding the exertions of the most industrious and enterprising, would elicit many important experiments and useful discoveries. We have the evidence of past experience in favor of agricultural associations. Nothing has so much contributed to raise the character of husbandmen in New-York, as the organization of such societies, and, during their short continuance, afforded such an effectual benefit as has not to the present time been effaced. By observation, it will be seen that those counties who maintained their positions, and kept up these institutions, their prosperity has been less interrupted, their operations more extensive, and the general appearance of their farms afford ample testimony of their usefulness.

P. S. I will think awhile upon this subject, and if the spring work does not engage too much of our time, I should be pleased to continue this conversation. It is about time to retire. Good evening.

Noted by FARMER C.

March 20, 1835.

Potash as a Manure. By T. D. [For the New-York Farmer.]

I was pleased to see an inquiry suggested in a recent number of the New-York Farmer respecting the use of potash as a manure as practised on Long Island, but regret to find no answer furnished by those to whom the inquiry was directed. In the absence of better information on the subject, permit me to state what has been my brief experience in the use of this manure.

I had a lot of meadow land, containing about three acres, which had been reduced to poverty by severe cropping. On this piece of ground I made the following experiment. Having broken up the sward, and harrowed it repeatedly until quite mellow, I spread leeched ashes over one acre, and potash dissolved in water over the other two acres; sowed millet seed, clover, and timothy, all mixed together, in the proportion of one part of each of the latter to five of the former, and one bushel of the mixture to an acre; harrowed all in together on orabout the first of sixth month.

The ashes cost fifteen dollars; the potash five dollars the acre; the expense and trouble of dressing with potash, about in the same proportion. And now it was a matter of no small interest to me, a novice at farming, to observe the result of an experiment, which, when made, I supposed to be entirely original. The crop of millet was fine, and as nearly alike as could have been expected, if the land had all been covered with the same kind of manure. The clover also, all over the lot, was luxuriant, and gave the strongest evidence, to my mind, that potash is the principal agent in leeched ashes, which causes fertility. I made trial of potash on a lot of four acres, which was considered the poorest on my farm, on which I sowed millet with the potash. I sowed at the same time four other acres without any manure, on ground considered much better than the last above mentioned.

I cut double the quantity of hay from that dressed with potash, and of a better quality. Thus far my little experience goes in favor of potash as a manure; but I much desire that some of thy subscribers, of larger experience, and abler pens, would favor us with light on this interesting subject. T. D.

Burlington, 4th mo. 8th, 1835.

Friend T. D. will please accept our thanks for his business-like detail of an important and interesting experiment. If every farmer would do likewise, the prejudice to book-farming would soon be dispelled.

The following communications are from a practical and experienced farmer, and his suggestions, which are the result of a long life, are certainly worthy of attention. He will please accept our thanks for his compliance with a request to practical farmers to give us their views on the various modes of cultivation.

On the Best Mode of Farming.

SIR,—I have read your Magazine a little more than a year, and, of course, have noticed the observations of the scientific farmers who have contributed to fill its pages; and in comparing them with my own experience, find them generally correct. Although different individuals seem to be inclined to different methods in regard

to manuring land, ploughing, &c. &c., such is the influence of circumstances, and variety in the soils and seasons, that one method may prove the best at one time and another at another time; so that all may be right, or the best in their turn. In regard to manuring, I have found it to be generally the best or the most profitable, to spread barn manure in August, or September, on stubble ground, and plough it in soon after; and then again in the spring, and thus mix it all up together. Some few years past I spread, in this manner, 40 ox-cart loads to the acre, and planted it with corn. I measured from one acre 111 two-bushel baskets of ears, and shelled one as near an average as we could guess, which made by computation 118 bushels and 3 quarts. I planted the same land the next year, without any additional manure, which produced 104 bushels to the acre. I have had good crops by this method, on sward land, but never yet could get quite so much as from the stubble ground of wheat or rye. I cannot but consider myself pretty well informed in the art of raising corn, oats, barley, rye, and potatoes, but, I must confess, I am somewhat at a loss how to raise wheat. When I first came into this country, the county of Madison, and as long as I was clearing land, I could raise wheat, and a tolerable crop; but since I began to sow land that had been swarded, it has been very uncertain, and for 3 or 4 years not enough to pay for sowing—sometimes in consequence of being winter killed, but mostly by rust, or blast. Three years ago I had a fine looking piece on summer fallow—as large a growth of straw as I had seen in the country; but soon after it began to fill, it was struck with the rust, and there was not a quarter of a crop. Last year I prepared a piece of corn hills for spring wheat, with manure the year before, and lime after it was sown. It was the greatest growth of straw I had ever seen; but soon after it began to fill it was struck with the rust, and was hardly worth threshing.

The land on which this wheat grew was the land on which I had the 118 bushels of corn. It is what we call beech hill land. The soil is from 12 to 15 inches to a hard-pan. Now, Mr. Editor, if any of your correspondents can inform me through your Magazine how to raise wheat on my kind of land, I shall be ready to acknowledge they know more about the business than I have yet learned.

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On the Culture of Potatoes.

Mr. Editor,—I noticed a communication in your Magazine for March on the culture of potatoes. Although I admit there is much truth in the gentleman's remarks, yet perhaps they are not as conclusive as some may imagine: that is, that every variety cultivated becomes debilitated in the course of a few years; but I fully agree with him, that those kinds that bear no balls or blossoms endure without degenerating the longest. I am, however, inclined to the opinion, that this debilitation is caused more from planting the small potatoes than the length of time they are planted. I have planted one particular kind more than 40 years, and since I came into this country, which is 30 years, I cannot perceive but that they grow as large, and yield as much, as when first planted. They are a large, round, yellowish white, called on R. Island Sucanecters. They bear no balls, and the vines grow up bushy, if the land is not very rich. I have most generally planted the largest, and cut them. I have planted many other kinds in the mean time, but have never had any equal to those on all accounts.

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On the Management of Ox-Teams.

Mr. Editor,—It may appear to you that I am trespassing on your patience, but am inclined to make a few more remarks; you are, however, under no obligation to attend to them. In regard to cattle and ox-teaming, although there may be some advantage in obtaining particular breeds from England, I am inclined to the opinion that there is more in good or proper keeping, and management, than in selecting particular breeds. A selection from our own native cattle would be equally as advantageous, I have no doubt, as to select from a foreign country. It has proved so at least according to my experience.

But of all the points in the farming business, there appears to me to be none in which the generality of farmers seem to be more in error than the management of ox-teams. When I was a boy, 50 years ago, my father's custom was, in the spring, when he began to plough, to get up as soon as it was light and feed his oxen, and before 7 o'clock take them out and go to ploughing until 12 o'clock, and then to let them eat hay as long as they would, perhaps 1½ hours; but the moment they began to chew the cud, to take to the work again till near sun-down. When they first began they would plough more than an acre a day, but in the course of 2 or 3 weeks it was hard to go half an acre, and this with much difficulty. This surely, I thought, was a hard task, and when I came to be manager myself I took a different method, and that was not to feed until about sunrise, which gave them a little time in the morning to chew the cud, and at noon gave them time to lay down half an hour for the same purpose, and then to go until one hour before sunset. With this method I found my team would plough as much in a day at the end of ploughing as at the beginning in the spring, with the same feed as given in the other method.

Another method I found customary among farmers when I came into this country, still worse than the former, and that is, to take up the team before sunrise, and before it had time to chew the cud, or eat any at all, in order to plough in the cool of the day, and at 9 or 10 o'clock pretend to feed them. But the fact is, by that time they become so exhausted and feverish that they cannot eat at all, but must be taken out again to work towards the cool of the day; and thus they soon get their team to lie down in the furrow, notwithstanding they may have a sufficiency to feed them. The fact is, as I find it, animals that work as a team must have a proper time to eat, and to chew the cud, and to rest, or they will soon fail in performing; and if they have this, they will not only perform a good spring's work, but will work the year round through heat and cold, except in some extreme hot days, when it is too hot even for a man to work in the sun.

Yours truly, L.

Hamilton, March 7, 1835.

Breeds of Sheep. By S. A. [For the New-York Farmer.]

Sir,—Being much in the habit of travelling, your truly valuable Magazine has repeatedly fallen in my way, and I have at different times seen notices in it of different breeds of improved cattle, sheep, hogs, &c. A short time ago, sir, I saw a very superior flock of New Leicester sheep, and a cross of the Cotswold and New-Leicester; also the best hogs I ever beheld; I believe they are called the Imported Berkshire breed, owned by the Messrs. Brientnalls, two miles north of Goshen, Orange county, N. Y. Both the sheep and the hogs, I am informed, are of pure blood, and well worthy the attention of breeders and admirers of fine animals.

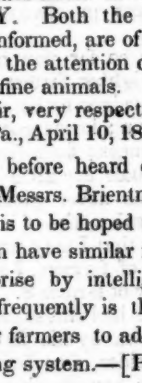
I am, sir, very respectfully, S. A.

Milford, Pa., April 10, 1835.

We have before heard of the superior flock of the Messrs. Brientnalls, of Orange county. It is to be hoped that other farmers may soon have similar notices taken of their enterprise by intelligent travellers, as it not unfrequently is the means of inducing other farmers to adopt and pursue the improving system.—[Prop. N. Y. F.]

Barn Door Bolt. By Novice. [For the New-York Farmer.]

Mr. Editor,—I have made an improvement, as *I* think, upon the inside fastenings to barn and waggon-house doors, and wish it may be found useful to others. I send a rude model: if worth describing, please do it. My bolts are made of oak, about 2 by ¾ inches, the mortice in the plate over the door is deep enough to permit the jaw of the upper bolt to lift over the top of the lower one.



Description—E represents the barn-door; A, the upper bolt, which passes into the deep mortice in the beam over the door; B, the lower bolt, that enters

a mortice in the barn floor; C and D indicate the bolts passing each other.

The warping out of doors at the top, when they are only fastened half way up, the risk of a wheel breaking the thrown down bar, and a stunning butt of the head to those like myself, who are unused to bowing, are now remedied by having substituted my present for the old way of fastening with a cross-bar.

With respect, NOVICE.

1st mo., 1835.

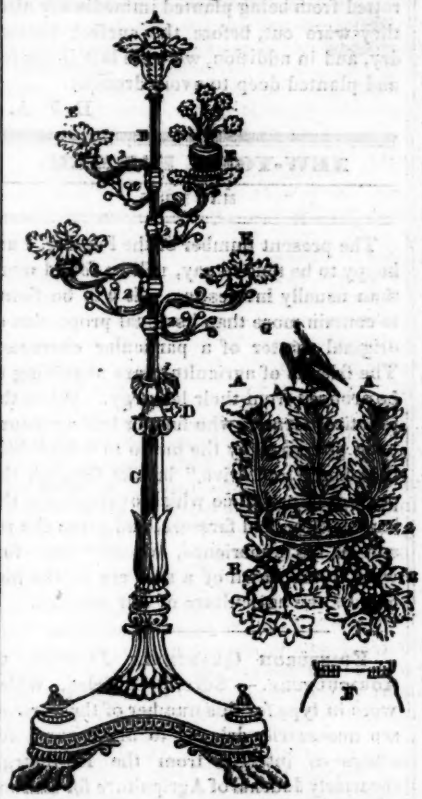
This, every farmer will perceive, is a very great improvement. One of the many inconveniences of the present mode of fastening barn doors, is their liability to be blown open by winds, and thus endangering the stock, and injuring and wasting the contents of the barn. My barn doors have beams and hooks. Almost every storm with wind throws them open, unless they are otherwise secured. I shall immediately have a pair of these bolts made. Every farmer to whom I have shown the model, highly approves of it. Neither winds, rogues, nor cattle, can unbolt the doors by shaking them.

S. F.

Description and Drawing of a Flower Stand. By M. SAUL. [For the New-York Farmer.]

MR. FLEET:

Sir,—The accompanying drawing is my new Flower Stand, which I have just designed and executed for my much esteemed friend, the Rev. T. Mackreth, the patron of the Lancaster Floral and Horticultural Society, which is well calculated either for plants growing in pots, or for cut flowers placed in glass basons, for drawing rooms. It has a most elegant appearance, being either brass, or cast iron, bronzed; a lamp may be placed on the leaf, A, at night, which will produce a beautiful effect; and during the day many pleasing objects may be placed on A, to appear amongst the flowers. The number of brackets, 2 2 2 2, may be increased to any amount, according to the quantity of flowers wanted to be placed on the stand, which are easily attached to the slide, B, by merely taking off A; the brackets move on the slide, B, so that they may be placed in any direction; and the whole can be taken off, and only A remain, when plants or flowers are scarce; the slide, B, may be let down into pillar C, till A rests on the top at 3, and then only one plant or bason of flowers is required for the stand; or any other ornament might be placed thereon. A screw is fixed at D, to set the slide, B, at any height, according to the number of brackets required. This stand may also be used for a hat stand in an entrance, hall, or lobby. The leaves, E, are so cast that they turn on the brackets, 2 2 2 2, with the greatest ease. By a slight inspection of the drawing, I presume it will be easily understood. I have only put one plant upon the stand, so that the leaves, E, may be better seen, and when a bason is placed thereon, it will not be liable to slip off, by the ends of the leaves turning up.



I also send you a correct drawing of my cast iron Chair, which is cast in seven separate pieces, and put together with the greatest ease, and little labor. This chair has now become a great favorite garden seat in this kingdom, notwithstanding the absurd and incorrect drawing given of it in Loudon's Gardener's Magazine, and also the Horticultural Register. I hope your engraver will give it correct from my drawing, so that the American iron founders may be able to make moulds from it. One mould only will be wanted for the back leaves, A, as the dove is moveable, and may be substituted by any other ornament, and placed at the end of the leaf, in the sand. When moulding, there are three vine branches to each seat, two in front, and one in the back, so that one mould only is wanted for them; and another mould is wanted for the bottom, if iron. Several have been made here with plain wood bottoms, which are 13½ inches over; they are then screwed on with common wood screws, through the bottom of the leaf, into the edge of the bottom. The vine branches are cast with a piece, so that the screws go into the bottom of the seat, as seen at F. Moulds might first be made in clay, and then a lead cast taken, to take an iron mould from. By a slight inspection of the drawing, I hope no difficulty will be felt in obtaining moulds by any spirited individual, which can be done at less expense than obtaining the moulds from here.

M. SAUL.

Lancaster, Engl., Dec. 7, 1835.

Visit to Jicaltepec, Mexico. By H. F. D. [For the New-York Farmer, and American Gardener's Magazine.]

DEAR SIR,—In compliance with your wishes I will send you, from time to time, sketches of my late journey to the republic of Mexico, a country which, though in the immediate neighborhood of the United States, is perhaps less known amongst us than any other. As I purpose residing there for some time, I may also, should it be interesting, give you accounts of our proceedings and operations in our settlement, to which I will now introduce you, by stating the object of my late journey to the Republic.

About two years ago, or more, a French gentleman, a particular friend of mine, after a residence of several years in Mexico, seized an opportunity which presented itself, of acquiring by direct purchase a large and very rich tract of land in the neighborhood of the Gulf. In order to raise the necessary amount of capital to render his purchase profitable, he proceeded to France, and soon succeeded in forming a company of French capitalists, under the title of the "Franco-Mexican Company," with a capital of 600,000 francs. A colony was formed, and sailed from Havre in the autumn of 1833, for Jicaltepec, (the name of the tract,) whither they arrived about the end of that year. After constructing huts, and rendering themselves comfortable, they began to clear land and plant. Their first crops were Indian corn and sugar cane; soon after coffee was planted, and the plantations in February last amounted to 40,000 sugar canes, and 10,000 coffee plants, besides about 30,000 morus multicaulis for silkworms, and many other articles. In the mean time three large crops of corn had been gathered in, amounting to upwards of 2000 bushels. To effect all this, we had about *twelve* regular laborers, and the plantations were commenced in April, 1834. Judge, then, if the land be rich, and of easy culture.

At the invitation of my friend, who was now Director-General of the company, I determined to go and see how matters stood, and to judge for myself of the resources of that country, of which I had heard so much good and so much evil; accordingly, in the month of June last, I sailed from New-York, and arrived at the infant colony on the 16th of July. Many persons whom I had met on my route, had, in the mean time, endeavored to dissuade me from continuing my journey: the spot was a desert,—the place was wild and uncouth, possessing no comforts whatever,—the troubled state of the country would interfere with our operations,—and a host of similar objections. How different was the reality from all this. How was I delighted with the beautiful country which presented itself to my view. I found a noble and majestic river, which watered the tract, and on which I was borne in my canoe to the very doors of the settlers. There was a wildness in the scene, but not a repulsive one; it was nature in all her un-

taught simplicity. Magnificent forests, loaded with the splendid vegetation of a tropical clime, vouched for the richness of the soil that produced them; waving crops of corn and sugar cane told that the hand of man had been busy, whilst the clink of the anvil, the grating of the saw, and the stroke of the axe, announced that civilization and human improvement had commenced their career in this remote and unknown spot. On the banks of the river rose the little village, composed of huts built of canes, and covered with palm leaves, all alike, from the first to the last; the Director-General and his lady being lodged in the same style as the rest. On one side was an immense *plantanal* or banana plantation, for supplying the colony with this most useful of vegetable productions. Every thing was cheerful, every thing was beautiful. The balmy purity of the atmosphere was most delightful, and the temperature moderate, the greatest heat during the whole of last summer being 93° Fahr. on one occasion. Yet even these heats are tempered by the regular land and sea breezes.

I remained eight months in the settlement, during which time I did nothing but investigate every point connected with the success of the enterprise and its advantages. The result of all this was that I became convinced, that in point of *interest*, or pecuniary considerations, this undertaking presented greater and more certain profits than any other speculation, and that in point of ease, tranquillity, and happiness, there was no spot superior to Jicaltepec. My resolution was immediately taken. Being sent to the United States, as agent for the company, on business of importance, and in order to dispose of some remaining shares of stock, I shall return as soon as that business is terminated, with my family, and take up my residence there altogether. I know of no place, nor of any speculation, in which small capital may be better or more advantageously employed, or where the results are less precarious.

My future communications will give you more detailed accounts of our operations, and occasional sketches of the manners and customs of the inhabitants.

H. F. D.

BENNETT'S BROAD-CAST MACHINE. — *Mr. Fleet*: Will you, or some one of the readers of the Farmer, inform me where this machine can be obtained. I have heard a very good account of it, and should be very much pleased to have some early information. I think the inventor resides in the Eastern States. R. R.

West Chester, April, 1835.

ROT IN POTATOES. — *Mr. Fleet*: I notice at page 49 of the New-York Farmer, for February, 1835, an article on the rotting of potatoes. In corroboration of that statement, I beg to offer the following: Last June I planted a quantity of Kidney potatoes in cuttings; more than one half of them failed to appear above ground; upon examining the hills, I found they were mostly halves, with the cut side turned down on the compost manure, but I thought they had rotted from being planted immediately after they were cut, before the surface became dry, and in addition, we were late in season and planted deep to avoid drought.

D. F. A.

NEW-YORK FARMER.

MAY 1, 1835.

The present number of the Farmer, I am happy to be able to say, will be found more than usually interesting. It will be found to contain more than its usual proportion of original matter of a particular character. The friends of agriculture are beginning to be aroused from their lethargy. When the practical farmer, who has for half a century been governed by the motto to both "hold the plough and drive," breaks through the pervading prejudice which overspreads the land of practical farmers, and gives the result of his experience, we may look forward to the dawn of a new era in the history of the agriculture of our country.

EDINBURGH QUARTERLY JOURNAL OF AGRICULTURE. — Several articles, which were in type for this number of the Farmer, are necessarily delayed to make room for others of interest from the Edinburgh Quarterly Journal of Agriculture for March, which has just come to hand.

The article on the preservation of potatoes, and the account of several experiments on manures, for potatoes, as well as a new manure, or "animalized carbon," will be found particularly interesting.

There are several other interesting articles from the same work, which will appear in our next number.

NEW CHEVALIER BARLEY AND IMPROVED HOPETOUN OATS. — The former of these appears, by English publications, to be in high estimation in Great Britain. It is spoken of, at the agricultural exhibitions, as a very superior article. The Hopetoun oat has, for several years past, obtained precedence over all others in Scotland, and in most counties in England. Recently there has come into notice the *improved* Hopetoun oat. This, without any exception, is the brightest, cleanest, and heaviest oats I ever saw. Both of these grains may be had, in small quantities, at the agricultural seed store in Barclay street. L. T.

DRY ASHES DESTROY LICE ON FOWLS. — When confined, or when simply roosting, in an inclosed house, hens are apt to become infested with lice, in the warmer months. Dry wood ashes, put on the ground where they dust themselves, will, says a farmer, who has given much attention to poultry, very soon entirely free them. S. F.

March, 1835.

The following extract from an article published in the Edinburgh Quarterly Journal of Agriculture for March, speaks with much confidence of the application of steam power to agricultural purposes.

On the Application of Steam to Purposes of Husbandry.

In a former paper upon the subject which stands at the head of this article, and which proposes a change in rural labor which will form a new era in the science of agriculture, after going into some detail to prove that the *power* of mechanically impelling the dray and the plough is gained, we went into a cursory review of the advantages which would arise from the displacement of brute labor, in order to form the *will* which is necessary to make the other available.

Notwithstanding the subject which we have commenced, and propose from time to time to continue in this Journal, is surrounded with prejudice, we have reason to know that we have not altogether sowed in vain. Our paper has been the means of directing the attention of many eminent practical agriculturists to the subject in various parts of the United Kingdom, whose concurrence is ample encouragement for us to proceed. As for the "hitherto shalt thou come but no farther" party, who cannot comprehend that the same mighty agent, which, partially introduced, has supplemented the energies of Britain to an extent that has carried her forward through difficulties which seemed insurmountable; which has made "her merchants princes, her traffickers the honorable of the earth; which has stretched out her hand over the sea, and made her the mart of nations;" can possibly be so accommodated as also to remove "the *burden* upon the crowned isle;" why, it is not the opposition of such men that will prevent it from achieving its great purpose of making a community at home, who can eat cheap bread at home, and be so remunerated as to consume prosperously commodities made at home. However, therefore, the sceptic for a while may laugh in his sleeve, or self-interest, prejudice, and ignorance may combine to thwart and impede it, our firm belief and confident impression is, that to the displacement of brute labor alone, the agriculturists of England, Scotland, and Ireland, will eventually owe their continuance as a branch of the producing orders of the state.

The application of mechanical power to general purposes of locomotion, has as yet only been tested experimentally. But these experiments have convinced a committee of the House of Commons, after a close investigation of the subject for three months, during which the evidence of the first statistical and engineering authorities was taken, that "the practicability of running steam carriages upon common roads has been fully established;" that "tolls to an amount which would *utterly prohibit* their introduction have been imposed;" that "the substitution of inanimate for animal power is the most important improvement in the means of internal communication ever introduced; and that "they recommend legislative protection to be extended to it with the least possible delay." This comprises the whole case; it declares the opinion of a body of men as to the completeness of the power, which opinion was arrived at upon unquestionable data; and it explains the reason why that power has not as yet come into practical operation. It is unnecessary, therefore, that we should take up time by entering into detail. Since the date of our last (June 1834) the steam

carriages of Messrs. Dance, Hancock, Macerone, Russel, &c. have continued to exhibit by numerous performances that they are now constructed with sufficient skill, amount of power, safety, and general efficiency, to secure their successful employment on any good road. Mr. Gibbs has matured a plan of applying steam to the working of common ploughs, so simple, perfect, and cheap, compared with horses, that it will be the most extraordinary blindness to self interest, if it is not shortly universally adopted. The Marquis of Tweeddale has recommended to the Highland Society to offer a liberal premium for a steam plough that shall prove effective; and a committee of the House of Commons has been appointed, on the petition of Mr. Gurney, with a view to the repeal of those legislative restrictions which have hitherto amounted to a prohibition upon steam carriages. There is every reason, therefore, to entertain the hope, that mechanical conveyance will now shortly be introduced, with a speed, and to an extent, corresponding to the impulse that will be given to it when society, as a body, shall cease to view it simply in the light of a rapid and improved means of internal intercourse; but when, in addition to its vast commercial importance, the whole of our starving classes shall come to regard it also as a mode of obtaining *cheap bread*;—when the whole of our unemployed classes shall regard it as a mode of procuring *abundant work*;—when the whole of the manufacturing classes shall regard it as a mode of balancing at home *production* and *consumption*;—and last, not least, when Government itself shall regard it as a mode of raising those resources which can no longer be obtained by *taxation*.

The only question, then, at the present moment, remaining relative to this subject, is "what is the best mode in which mechanical locomotion can be introduced? And it is the most momentous question, taking into consideration the social state of the nation, ever put for public consideration; for it *may* be practically solved in such a way as annually to save for relief from taxation two thirds of the fares levied for travelling, which, under a cheap, rapid, and uniform system, may amount to upwards of £4,000,000;—economize for the same purpose a third of the current expenditure upon roads, horses, stage coaches, &c. now amounting to not less than £20,000,000;—invest the fluctuating capital of £30,000,000, unproductively sunk in a species of live machinery (horses) in whose fabrication no workmanship is expended, in machinery which must be made and operated by human hands;—preserve for the use of our half-fed population the £25,000,000 now wasted in its keep;—permit, by its displacement, the flax, corn, hemp, tobacco, &c. to be cultivated at home, for which we pay to foreign growers £10,000,000; supersede the necessity of compulsory emigration for centuries to come; absorb surplus labor to an extent that will shortly cause the amount of £8,622,920 of poor rates to work out their own extinction; and so cheapen the cost of producing food as to render the repeal of the corn laws unnecessary.

[From the Edinburgh Quarterly Jour. of Agriculture.]

On the Preservation of Potatoes over the Year.

As the best mode of preserving potatoes until the produce of the next year's crop should be brought into use, is a matter of considerable importance, I beg to refer to Vol. 22d, p. 135, of the Transactions of the Society for the Encouragement of Arts, &c. where is detailed the following method adopted with success by M. J. De Lancey, Guernsey.

M. De Lancey says: "Early in March, 1803, I observed my winter's stock of potatoes, which I had dug in October, 1802, sprouted from the mildness of the weather in this island. It occurred to me, that by putting them under ground vegetation would be retarded. I accordingly took indiscriminately from my pile about 3 dozen, and in my court-yard dug a hole two feet and a half deep, under the protection of a south-west wall, where the rays of the sun prevail for a few minutes only during the day, at any season of the year. Then, with three pantiles, one at bottom, I laid most of my potatoes in the hole, and placed the other two tiles over them in form of the roof of a house. They not containing all, I threw the remainder carelessly into the hole, (having no great confidence in my experiment,) covering the place over to its usual level. Business calling me home during part of the summer, I neglected looking after my small deposite: but, on the 21st January, 1804, nearly 11 months after covering them, I had the curiosity to examine them, when, to my astonishment, I found them, (two or three excepted, which were perforated by the ground worm, though firm,) all perfectly sound, without having in the least vegetated in any respect, fit for the purpose of sets and the use of the table, as I have boiled a few, and found them similar in taste and flavor to new potatoes. I further pledge myself that they were perfectly firm. I have still some of them by me for the inspection of my friends, who all agree that they are so."

In another letter, dated 17th May, 1804, M. De Lancey says: "I avail myself of the opportunity of a friend going to London, to send three of the potatoes, as a confirmation of their being fit for sets, as they are actually sprouting. The potatoes I send, I pledge myself are of the growth of 1802." Then follows the certification of the Secretary to the Society of Arts: "The above potatoes were examined before a Committee of the Society on the 30th of July, 1804, and found to be in a state fit for vegetation."

From the above experiment, it is evident that *vaults* or *deep trenches*, out of the reach of atmospheric influence, would effectually retard the growth or sprouting of potatoes during the period of about *twenty-one months*; that is, from the time of taking up in October, till the 30th July of the *second year*, or say at least *eighteen months*, —and we have here a period of time three times longer than would be sufficient to fill up the interval betwixt the old and the new crop of potatoes.

It is probable, that potatoes for deferred use, say from April to October, would be more safely deposited in January or February than at an earlier period; for it cannot be doubted that, when just taken from the field, they possess a succulence and moisture rather inimical to sound storing in large quantities, besides which the examination and removal of damaged sets would contribute much to the security of the deposited heaps. If we can preserve ice from melting, we can surely keep potatoes from sprouting; and the latter is undoubtedly an object of much greater importance than the former. Trenches or vaults would probably require three or four feet of covering of mould, besides all the advantages that can be gained by selection of a situation not exposed to the sun; and if the potatoes deposited were formed into breaks or divisions of five, ten, or fifteen bolls, according to circumstances, with intervening partitions to prevent the access of air, there is little doubt, that by well-contrived and well-constructed vaults or trenches, potatoes may be kept in excellent condition, from the beginning of April till the end of October for domestic purposes, as well as for the use of horses and cattle. G.

Animalized Carbon, *a new Manure.*—This substance is of French origin, and its manufacture is secured by patent. It was discovered by a French chemist; but that it is a substance easily manufactured may be inferred from the fact of its being shipped free on board for 35s. per ton. Mr. Joseph Owen, of Copenhagen, acquired the knowledge of the manufacture from the patentee in France, and has since established a manufactory on his own account in Copenhagen. His traveller, a Danish gentleman, was the first to introduce this new manure to the notice of the Scottish agriculturists. We have not had an opportunity of seeing a sample of it, but it seems it has been tried last year by Mr. Dalgairns of Ingliston, and Mr. Inches of Cardean, who, we hope, will favor us with their opinion of its efficacy. We understand that the Danish gentleman has disposed of 250 tons of it in the counties of Forfar and Kincardine. Mr. Owen's card gives the following account of its nature, and the mode of using it:

"The chief excellency of this manure is, that it is powerful in its effects, occupies but little room, is easily separated, and conveniently used either by hand or drill; its effects are farther to ensure a rich crop, by gradually ameliorating the soil, and rendering fallowing unnecessary. For wheat, rye, buckwheat, barley, and similar descriptions of corn, about 8 cwt. 1 qr. 16 lb. is used per acre: it may be either broadcast or drilled in before harrowing. For flax, hemp, beet, potatoes, &c. about 10½ cwt. per acre; and 12 cwt. 2 qrs. 10 lb. per acre for artificial meadows, different sorts of cabbage, rape, culinary plants, and for refreshing natural meadow land. For plants that are set in rows, a handful is put to each plant; for those which are transplanted, a child follows the planter, and throws a very small handful of the manure into each hole, which is immediately covered over with earth; in several places for rape, it is scattered out in rows along the roots of the plant, which the plough covers by forming a new furrow. On meadow land it must be spread out in December or January, when the snow is not on the ground. Generally speaking, it is well to mix the manure with half its quantity of finely sifted earth; but there is no necessity for pursuing this method. On light and warm soils about 2 qrs. 22 lb. less per acre is used than on cold or clay lands, where an extra 2 qrs. 22 lb. are added to the quantity as before-hand directed to be used; it is in fact left to the farmer's judgment to make use of the above directions, according to local circumstances. What characterises this manure most is, that it developes its effects so slowly and gradually, that it may be applied without danger in contact with the seed or roots of plants; in this it differs from a number of other manures which are less rich, but more heating. In Scotland it has been tried in 1834 on eight different soils, has been found nearly equal to bone-dust for turnips, and has since been ordered in large quantities from the manufacturer, Mr. Owen, at Copenhagen, who delivers it free on board at 35s. per ton."—[Editor Q. J. A.]

Breeds of Cattle. No. 1.—In the system, or rather the want of system, which has hitherto attended the agriculture of this country; when every man, instead of doing '*that which was right in his own eyes*,' did just as he had seen his father do, that same republican spirit, which is one of the main pillars in our national liberty—estimating every man according to his own worth, regardless of his pedigree,—has been carried a little too far, by extending it to cattle and other brute animals, which constitute a part of the property of the farmer, and in which pedigree is evidently of some importance. The farmers in this country, (if they could be called farmers,) appeared to have no idea that any hereditary improvements could be effected in any species of animal. They knew that a cow was a cow, and a horse was a horse, and they also knew the old adage that 'a good cow might have a bad calf,' and they therefore thought the reverse of the position was true also; and whichsoever of the two took place, they imputed it to the hand of Providence, and not to any circumstances which it was in their power to control.

But the opinions of mankind are in this respect like a pendulum; when they find themselves on one side of the truth, in their zeal to correct the error, they generally err as far on the other side; and still like the pendulum, they often oscillate from side to side, till the gravitating power of reason brings them at rest in the centre. And so, in some measure, it will doubtless happen in this case. Many gentlemen, whose opportunities had informed them that there were breeds of cattle in other parts of the world, which, though of the same species as our own, possessed qualities far superior to them, and have therefore gone to great expense in importing them, and who, to remunerate themselves for the expense, and no doubt also with patriotic views of benefitting the public, are selling the increase from these improved breeds of cattle at high, but not exorbitant prices, considering the expense and trouble of introducing them.

Respecting the real value of these cattle to the economical agriculturist, there are two opposite opinions, and probably, as already suggested, truth lies between them. A portion of the public, who are proud of possessing extraordinary things, and fond of novelty, and who trust the opinions and follow the example of others rather than reason for themselves, suppose that these cattle will almost insure them inexhaustible wealth, and that they will not only never deteriorate in quality, but that they will always command the same price as at present. Another set of people, and perhaps far the most numerous, believe the same old breed of oxen which composed the sturdy teams of their fathers, and the same race of cows, on the milk of which they were brought up, are good enough for them; and that all the pretended improvements are a mere trick, calculated either for show or for speculation.

If these opinions are both errors, as they doubtless are, the first is by far the most harmless; for, if a few persons, actuated by a laudable enthusiasm in the spirit of improvement, should so far overstep the line which cold prudence would dictate, as even to incur some slight loss, that loss would generally fall on those who are able to bear it, and the country would be absolutely benefitted; while the opposite opinion would produce no good, but might produce negative evil, by preventing useful improvements. We consider it therefore a duty to cherish and assist, as far as in our power, the spirit of improvement in the breeds of useful animals.

The first question, then, which the subject presents is, by what means, and to what extent such improvements can be effected, and how far their permanent continuance can be depended on. We blend these three points together, because they are so intimately connected by nature, that it is almost impossible to consider them separately.

Let us take a view of the subject as nature and art present it, in its two opposite extremes. The cow must have been once a wild and savage animal. Whether she was domesticated from the American buffalo, or from some other wild beast, we have no means of knowing, with certainty, nor could the knowledge be of much use; we can only know her domestication must have been long anterior to any historical records we can ever obtain. But as the cow and the buffalo propagate in any cross, we may naturally conclude them to be of one species, and that the difference has been effected by domestication, conducted by art, with different degrees of skill. To see, then, how far nature can be improved by art, let us compare the two animals together. In the one case, the wild and shaggy buffalo, with eyes of fierceness, and frame formed for combining force with unrestrained agility—calculated to bound over hills and dash through forests and thickets—of little use to mankind, except to the savage hunter, almost in a corresponding degree wild and uncivilized. Compare with this the domestic cow, the mother and source of a train of our richest comforts, with eyes beaming with mildness, apparently sympathizing with our social wants, and seeming only to want the power of speech to express her gratitude for the favors she receives, and for which she not only richly pays through her life, but with interest at her death. Instead of affording milk barely sufficient to support her own young while their nature requires it, she furnishes a supply, not only for her own offspring, but for ours and ourselves, almost unlimited as to quantity and duration. Her shaggy hair has become fine, short, and silky, and the proportions of her form so changed as to increase the quantity of her flesh in those parts where it is most valuable, and diminish it where it is less so. When we contemplate, in different specimens of neat cattle, the different degrees to which these improvements have been carried, we are led to doubt whether the summit of improvement has yet been reached, and ardently to wish to see them become more general. To awaken the attention and excite the energy of the agricultural community in a cause of such importance, it becomes necessary that every farmer should know, and be thoroughly acquainted with, the names, the distinctive forms and properties, and also the comparative and absolute values of all the different breeds, and that he should know the modes of treatment, and other causes which produced them. To promote this object we shall give here, and in our succeeding numbers, such knowledge as we possess, or have the means of obtaining respecting the different breeds of cattle, both national and sectional, embracing the circumstances and causes which have produced and stamped their respective characters; with such facts as shall lead to a correct estimate of their comparative value, accompanied in most cases by handsome wood engravings of each peculiar breed.

The honest homebred farmer, who has never learned from natural history the vast varieties exhibited among animals of the same species, and whose knowledge of cattle is confined to his own stock and that of his neighbors, would be astonished on becoming acquainted with the cattle of different quarters of the earth, or even with different nations in the same quarter. We would be no less surprised to find the different uses which are made of them in different parts of the world—to find them in central and southern Africa and parts of Asia made use of to ride on, and even where speed is required, to carry dispatches, and that in long and rapid travelling they outdo the horses; nor would it be less unfamiliar to see cows yoked to the plough, in Hindostan and in parts of Africa. We will now intermix with our remarks some extracts connected with the subject, chiefly from a work on *Cattle*, written and published in England, under the superintendence of the Society for the Diffusion of Useful Knowledge.

Major Denham, in his travels into Central Africa, gives the following amusing description of these excursions, [the riding on cattle.]

"The beasts of burden used by the inhabitants, are the bullock and the ass. A fine breed of the latter are found in the Mandara vallies. The bullock is the bearer of all the grain and other articles to and from the markets. A small saddle of plaited rushes is laid on him, when sacks made of goat skins, and filled with corn, are lashed on his broad and able back. A leather thong is passed through the cartilage of his nose, and serves a bridle, while on the top of the load is mounted the owner, his wife, or his slave. Sometimes the daughter or the wife of a rich Shoua

will be mounted on her particular bullock, and precede the loaded animals, extravagantly adorned with amber, silver rings, corals and all sorts of finery; her hair streaming with fat, and a rim of black copal, at least an inch wide, round each of her eyes, and I may say arranged for conquest at the crowded market. Carpets or robes are then spread on her clumsy palfry—she *sits jambe de ça, jambe de là**—and with considerable grace guides her animal by the nose. Notwithstanding the peaceableness of his nature, her vanity still enables her to torture him into something like caperings and curvetings.

"It is, however, in the southern part of Africa that the triumph of the ox is complete. His intelligence seems to excel any thing that we have seen of the horse, and he is but little inferior to that most sagacious of all quadrupeds, the dog. Among the Hottentots, these animals are their domestics, and the companions of their pleasures and fatigues; they are both the protectors and servants of the Caffre, and assist him in attending his flocks, and guarding them against every invader. While the sheep are grazing, the faithful backely, as this kind of oxen is called, stands and grazes beside them. Still attentive, however, to the look of its master, the backely flies round the field, obliges the herds of sheep that are straying to keep within proper limits, and shows no mercy to robbers who attempt to plunder, nor even to strangers: but it is not the plunderers of the flock alone, but even the enemies of the nation that these backelies are taught to combat. Every army of Hottentots is furnished with a proper herd of these creatures, which are let loose against the enemy. Being thus sent forward, they overturn all before them; they strike down with their horns, and trample under their feet, every one who attempts to oppose them, and thus often procure their masters an easy victory, before they have time to strike a blow."

An animal so serviceable is, as may be supposed, not without its reward. The backely lives in the same cottage with its master, and by long habit, gains an affection for him; for in proportion as the man approaches to the brute, so the brute seems to attain even to the same share of human sagacity. The Hottentot and his backely thus mutually assist each other; and when the latter happens to die, a new one is chosen to succeed him, by a council of the old men of the village. The new backely is then joined with one of the veterans of his own kind, from whom he learns art, becomes social and diligent, and is taken for life into human friendship and protection.†

"In the Alps, the cattle are the pride of their keepers, who adorn the best of them with an harmonious set of bells, chiming in accordance with the celebrated *ranz des vaches*. The finest black cow is adorned with the largest bell, and the two next in appearance wear smaller ones. Early in the spring, when they are removed to the Alps, or to some change of pasture, he (the owner or herdsman) dresses himself in all his finery, and proceeds along, singing the *ranz des vaches*, followed by three or four goats; next comes the finest cow, adorned with the great bell, and then the other two, with the smaller bells, and these succeeded by the rest of the cattle walking one after another, and having in their rear the bull, with a one-legged milking stool on his horns, while the procession is closed by a sledge bearing the dairy implements.

"It is surprising to see the pride and pleasure with which the cows stalk forth, when ornamented with their bells. One would hardly imagine that these animals are sensible of their rank, and affected by vanity and jealousy; and yet if the leading cow is deprived of her honors, she manifests her disgrace, by lowing incessantly, and abstaining from food, and losing condition. The happy rival, on whom the badge of superiority has devolved, becomes the object of her vengeance, and is butted and wounded and persecuted by her in the most furious manner, until she regains her bell, or is removed from the herd."

We give these quotations in order to give those of our readers who have not learned these facts before, some idea, not only of the varieties produced in the same species, by location, treatment, and other circumstances, but of the different treatment they receive in different parts of the world, and the effects produced by such treatment. The writer above quoted goes on to state:

"The breeds of cattle, as they are found in Great Britain, are almost as various as the soil of the different districts, or the fancies of the breeders. They have been very conveniently classed according to the size of the horns. *The long horns*, originally, so far as our country is concerned, from Lancashire, much improved by Mr. Bakewell of Leicestershire, and established through the greater part of the midland counties—the *short horns*, originally from East York, improved in Durham, mostly cultivated in the Northern counties, and in Lincolnshire, and many of them found in every part of the Kingdom, where the farmer attends much to dairy, or a large supply of milk is wanted—and the *middle horns*, not derived from a mixture of the two preceding, but a distinct and valuable and beautiful breed, inhabiting principally the north of Devon, the east of the Sussex, Herefordshire, and Gloucestershire; and the cattle of the Scottish and Welsh mountains, of diminished bulk, and somewhat different character. The Alderney, with her *crumpled horn*, is found on the southern coast, and in smaller numbers, in gentlemen's parks and pleasure grounds every where; while the polled, or *hornless* cattle, prevail in Suffolk and Norfolk, and in Galloway, whence they were first derived.

"These, however, have been intermingled in every possible way. They are found pure only in their native districts.

"The character of each, so far as it can be described, and the relative value for breeding, grazing, the dairy or the plough, will be considered. Much dispute has arisen as to the original breed of British cattle. The battle has been strongly fought between the advocates of the middle and the long horns. The short horns and the polls can have no claim;* the first is evidently of foreign extraction, and the latter, although it has existed in certain districts, from time immemorial, was probably an accidental variety.

"We are evidently much disposed to adjudge the honor to the *middle horns*. The long horns are evidently of Irish extraction, as in due place we shall endeavor to show."

We shall, in our next number, commence with the middle horns or Devonshire breed of cattle, and continue, in that and the succeeding numbers, through all the different breeds of cattle known in England, Wales, Scotland, Ireland, and their adjacent islands, with such information as, we trust, will enable every intelligent farmer to converse understandingly on the subject of each breed.

Pasturing Drove Cattle.—"Formerly," said one of my neighbors, "I was in the practice of pasturing over night droves of cattle going to the city market. The charge was about six cents per head for the night. This is generally considered a sufficient compensation. But from the circumstance that the cattle generally come empty, and go away full, they take from the soil more than is returned to it by their means; consequently the soil is rather impoverished than otherwise. For this reason I have discontinued pasturing drove cattle, except occasionally as a matter of accommodation."

The above was related to me by an extensive and successful farmer. It serves to show the importance of returning to the soil, at least, all that is taken from it. He cuts an immense quantity of hay, and although near a market, yet more frequently buys than sells. The plan of keeping stock, to consume all the hay and a great part of grain that are raised, is certain to give a support to the family and to increase the productiveness and value of the farm.

S. F.

March 16th, 1835.

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* A leg here and a leg there, or one on each side.

† What a lesson is here given by the poor Hottentot to many of our more knowing countrymen, who may be daily seen lashing and beating their oxen as if they did it for bodily exercise, while the poor suffering animals are going forward at the extent of their natural speed, or perhaps straining with agonizing efforts to start an injudicious load. If there is any one trait in the human character more hateful and atrocious than any other, it is cruelty to dumb animals.

* To be considered the original breed of British cattle.

The following account of a variety of experiments made to test the comparative value of different kinds of manure, which we take from the March number of the Edinburgh Quarterly Journal of Agriculture, will be found highly useful to many readers of the Farmer. It is not a common occurrence to have experiments made in so great a variety of ways.

Account of some Experiments to ascertain the Effect of different Manures upon the Potato.

[These experiments were conducted in a hothouse, on account of the season of the year, in order to ascertain the effect of different manures when brought in contact with the skinny or cut surface of the potato, by desire, and under the inspection, of his Grace the Duke of Portland, at Wellbeck, in January, 1835.]

Pig Dung.—1. With pig dung, *recently* dropped, and without any other mixture. Four potatoes were cut lengthways, so that the largest wounded surface might be exposed to the action of the dung; they were immediately placed directly and firmly upon a bed of it, in a pot, two inches thick, and then covered with one and a half inch of garden earth. They soon sprang up vigorously, with the exception of one, which rotted. The tops are remarkably strong, and in length from ten to twenty inches; the cut sides of the sets are perfectly sound, and with every appearance of remaining so for a long time.

2. The same experiment as the above, with only this difference, that the sets had the wounded side laid to dry for three or four days before being placed upon the dung. The eight sets were all placed as the foregoing; six of them came up but slowly compared to the first experiment, the other two rotted.

3. The same as experiment first, only the *cut* sides of the potato were laid *upwards*; five only grew, the other three rotted. Although the sets of those which have vegetated are perfect, they only rise weak and spindly, and not by much so promising as in the first experiment.

4. The same as the first experiment, only the potatoes were planted whole. They *all* sprung up very sturdy, but much slower than any of those which were cut.

5. Eight *fresh* cut sets were *buried* in a body of the recently dropped pig's dung, and only two perished; the rest sprung up very strong through it, and the sets are sound.

Cow Dung.—1. With cow dung recently dropped. The sets fresh cut, and treated in all respects as the first experiment with the pig's manure. Only one perished; the rest sprung up strong, and are at this time quite sound, whilst the shoots are sturdy, and from ten to twenty inches long.

2. The same experiment as No. 2 with the pig dung, only using the cow's instead. The sets came up slowly, and very irregularly, and with five out of the eight rotten; the other three perfectly sound.

3. As No. 3 with the pig's dung. The sets arose very spindly and irregular; two perished.

4. As No. 4 with pig's dung. They all sprang up vigorously, and continue so.

5. As the foregoing No. 5 with pig's dung. All perished completely.

Horse Dung.—1. With horse dung recently dropped; experiment as with the pig's No. 1. Six of the sets sprung up very strong, and although the shoots are from sixteen to twenty inches long, the sets remain sound. Two perished.

2. As No. 2 with the pig dung. Four only came up strong, the other four perished.

3. As No. 3 with the pig's dung. They *all* sprang up strong, but later than those whose *uncut* side were *uppermost*; all sound.

4. As No. 4 in the pig's dung experiment. All came up late, but very sturdy.

5. Eight sets, fresh cut, buried as No. 5 in the pig's dung. Six came through very strong, and the sets remain perfectly sound. Two perished.

Compost.—1. With a mixture of the three foregoing dungs, recently dropped, all the experiment the same as No. 1 with the pig's dung. All sprang up most luxuriantly, and not one in the least state of decay, and are now from eighteen to twenty-six inches high.

2. With the foregoing mixture, but treated like No. 2 of the pig's dung. Six sprung up strong, but irregular; two rotten.

3. With the foregoing mixture, but treated like No. 3 of the pig's dung. They came up slow and spindly compared with the others, with the *cut* sides *undermost*; one rotten.

4. With the foregoing mixture, but treated as No. 4 of the pig's dung. They all came up slow compared to those cut, but very strong; none lost.

Decomposed Mixture.—1. With decomposed mixture, of both animal, with much vegetable matter, and nearly as it is used generally over the kingdom for potato manure. The experiment the same as No. 1 of the pig's dung. They came up remarkably vigorous, and although now of considerable height, are still sturdy, and the sets perfectly sound; one rotten.

2. With the foregoing decomposed mixture, but treated as No. 2 of the pig's dung. The whole came up slow to the preceding experiment, and not so sturdy.

3. With the foregoing decomposed mixture, but treated as No. 3 of the pig's dung. They all sprung strong, but slow; none lost.

4. With the foregoing decomposed mixture, but treated as No. 4 of the pig's dung. Came up late, but sturdy.

Soil.—1. In soil alone, fresh cut, as in No. 1 of the pig's dung. They came up slow but strong; one perished.

2. As in the preceding state, but treated as No. 2 of the pig's dung. Came up weak, and very late; one perished.

3. In soil alone, but treated as No. 3 of the pig's dung. Came up strong, but late; none lost.

The same course of experiments shall be gone through in the open ground, in the month of April.

THE ANNAT BARLEY, *a new variety of Barley.*—This new and seemingly very superior variety is the produce of three ears which were picked by Mr. Gorrie, Annat Gardens, in a field on the farm of Flawcraig, Carse of Gowrie, Perthshire, in the harvest of 1830, since which period it has been grown at Annat Gardens. Hence its name. Last season it was sown on a ridge in the middle of a field with *Common* barley on the one side and *Chevalier* on the other. In bulk of straw it seems to have the advantage of both these kinds; it was five days earlier ripe than the former, and about a fortnight before the latter; and it was also 2¼ lb. per bushel heavier than the *Chevalier*. From the *Annat Barley* being of so recent introduction, it will be two years at least before a sufficient quantity of seed can be procured to render it the subject of extensive cultivation.—[Editor Q. J. A.]

THE LAWTON HYBRID, *a new Turnip.*—We have to introduce to the notice of agriculturists another new and valuable turnip for field culture. This variety is a hybrid between the *green-topped Swede* and the *green-topped white Globe*, raised by James Wright, Esq. of Lawton, Strathmore, Perthshire. Hence the name. From trials which have been made in various parts of the country during the last season, this variety seems deserving of cultivation. It is a white turnip with a green top, and possesses the advantages of being hardier, and yielding a greater crop, than any other of the white turnips at present cultivated in the fields, qualities which render it well worth the attention of farmers.—[Editor Q. J. A.]

SCENT FROM SKUNKS.—Among the productions of nature, those substances that produce the sensation of smell are not the least interesting and wonderful. The rose, for instance, must emit innumerable particles when for hours and days it fills the surrounding air with its delightful fragrance. The particles of some fragrant substances have such an affinity for other substances, that they produce the sensation of smell long after the fragrant body is removed or destroyed. The rose, when put among clothes, will emit so many particles, that a person's dress will retain the delightful smell for a long time after the rose has disappeared. But of all the penetrating odors, that of the skunk is as astonishing as it is offensive. It diffuses itself to a great extent, and penetrates through almost every opposing substance. A lady informs me, that on visiting an acquaintance she perceived the smell of a skunk in the butter on the table. On inquiry, she learned that a skunk, about six months previous, got into the cellar where the butter was packed in stone pots. The scent had penetrated and remained in the butter during the above long period. Farmers and dairy-men should be particularly cautious in guarding their cream and butter from the scent of skunks; it is not necessary for the offensive animal to get into the milk room, to impart a disagreeable flavor to the butter, for if he is about or near the house, the butter is very liable to become injured.

For several nights in the latter part of March, I found that some intruder had robbed my hen-house, in sucking eggs. I charged a worthless cat with the crime, and put him to death without ceremony or trial. But the eggs were still destroyed. I then set a large iron fox-trap, with an egg for bait. In less than an hour I secured the real rogue. His scent pervaded every room in the house, and for considerable distance about. To this day, which is a week since he was taken, the eggs that have been laid in the nest where he was killed, retain the scent after they are brought into the house. S. F.

April 6, 1835.

Cultivated Grasses and Root Crops for Live Stock.

Mr. Minor—The following article, prepared to accompany H. Huxley & Co.'s Catalogue and Rural Library, will be found, by the readers of the Farmer, interesting and useful, particularly at this season.

S. F.

The different species and varieties of Grasses attain to their greatest state of perfection at very different periods of time. Some species are annual, or arrive at perfection in one year; others require two or three years to attain to that degree of productiveness which they never exceed. There are very few Grasses that will not, with proper treatment, arrive at their greatest state of perfection in three years from the time of sowing.

The great variety of habits existing in the numerous species of Grasses, that are always found in the best natural pastures, constitutes their superiority over those formed artificially of one or two species of grasses. Each month from the beginning of Spring till Winter, is the peculiar season in which one or more of these grasses are in the greatest perfection.

The best natural pastures of England, examined carefully during the various periods of the season, were found to consist of more than twenty different plants, amongst the principal of which may be enumerated the Alopecurus pratensis, Meadow Foxtail Grass; Lolium perenne, Perennial Rye Grass; Anthoxanthum odoratum, Sweet scented Vernal Grass; Dactylis glomerata, Rough Cocksfoot Grass; Festuca pratensis, Meadow Fescue Grass; Phleum pratense, Meadow Catstail Grass; Holcus avenaceus, tall oat-like soft grass. These afford the principal supply of grass in Spring, and a great portion of the Summer herbage. Avena flavescens, yellow Oat Grass; Cynosurus cristatus, crested Dogstail Grass; Poa pratensis, smooth stalked Meadow Grass; Poa trivialis, rough stalked Meadow Grass; Festuca duriuscula, hard Fescue Grass; Trifolium repens, white Clover, and Trifolium pratense, red Clover; yield their produce principally during the Summer and Autumn. Agrostis stolonifera, creeping bent Grass; Agrostis palustris, marsh bent Grass; and Achillea millefolium, Yarrow; vegetate with greatest vigor in Autumn.

Alopecurus Pratensis, Meadow Foxtail Grass—Is valuable as a meadow grass either for mowing or pasturing, producing a great quantity of rich succulent herbage early in the Spring, and affording a large crop of hay on rich clayey loams, but is comparatively of less value on light sandy soils. The grass of lattermath contains a greater quantity of nutritive matter than that of the flowering crop, which circumstance recommends it as a pasture grass. It does not arrive at full perfection from seed in less than four years. When made into hay, it is most valuable if cut when the seed is ripe.

Lolium Perenne, Perennial Ryegrass.—There are two varieties of this grass: the annual, or more properly biennial, which is generally sown either with or without clover, among grain crops, for the purpose of obtaining one crop of hay the succeeding season:—after mowing, it dies away without producing any after-grass. The produce in hay is greater than that of any other annual grass equally relished by cattle; it prefers a rich loam, but will grow on almost any soil. The perennial variety is of shorter growth than the annual, but will remain in good dry soils four or five years, and in rich soils much longer. When sown together with a portion of red clover, on lands intended to remain in grass from three to five years, it is superior to any other single grass.

Sown with red clover for mowing, it is preferable to Timothy grass, being in full perfection at the same time as the clover. This grass, as well as the annual variety, should always be cut for hay when in full flower.

Anthoxanthum Odoratum, Sweet scented Vernal Grass.—An hardy and permanent grass, of early but diminutive growth—unfit for hay, but well adapted for permanent pastures. It thrives best on moist rich soils, and when combined with other grasses.

Dactylis Glomerata, Rough Cocksfoot Grass.—The orchard grass of some American writers; an early, hardy, productive, but coarse grass, valuable for pastures, and when cultivated by itself affords a great bulk of hay, which contains a large proportion of nutritive matter if cut at the time of flowering. To obtain the greatest produce from this grass, it should be kept closely cropped, either by cattle or with the scythe. Light rich lands are best adapted for the growth of cocksfoot grass, but it will grow on almost any soil not too retentive of moisture, and succeeds well under the shade of trees.

Festuca Pratensis, Meadow Fescue Grass.—A superior grass for laying down meadows and pasture lands, yielding a considerable quantity of rich Spring herbage. When intended for hay, the most advantageous time for mowing is when flowering; but it is most valuable when combined with other grasses for the formation of permanent pastures.

Phleum Pratense, Meadow Catstail, or Timothy Grass.—Is commonly sown along with red clover for hay, but is not so well adapted for that purpose as the perennial rye grass on dry soils. It should not be mown before the seed is ripe, at which time the red clover is of little value, but on strong, tenacious and moist soils, it is perhaps superior to any one grass for hay, and on account of its rapid and early growth, and the great quantity of nutritive matter found in its herbage, it is recommended as a grass well adapted to form part of any mixture of grasses intended for permanent pastures. It is moist, relished by cattle when kept closely cropped; if allowed to grow up it becomes coarse and rank, and cattle will refuse it for other grasses.

Holcus Avenaceus, tall oat-like soft grass,—Avena elatior, of Curtis, and tall meadow oat grass of American Farmers.—Is recommended as one of the most valuable grasses for hay or green fodder. Its produce of hay is large, but it is deficient in nutritive matter compared with that of many other grasses.

This grass grows rapidly after cropping, and produces a great quantity of early Spring food. On strong rich soils it is most productive, but it will grow well on a sandy loam. The proper time for cutting is when the grass is in flower.

Avena Flavescens, Yellow Oat Grass—should always be combined with other grasses to obtain its produce in perfection, and secure its continuance in the soil. When cultivated by itself it dies away in a short time, and the produce is inconsiderable. It thrives best on dry soils.

Cynosurus Cristatus, Crested Dogstail Grass.—In moist rich meadow lands this grass is valuable for hay, the culms or flowering stems containing a great quantity of nutritive matter; but its chief value is as a component of permanent pastures, sending down its roots to a great depth in the soil, which enables it to continue in a growing state after most other grasses are injured by a continuance of dry weather.

Poa Pratensis, Smooth stalked Meadow Grass.—Is well adapted for permanent pastures, sustaining severe droughts with little injury and growing well on dry soils, but is of little value for hay.

Poa Trivialis, Rough Stalked Meadow Grass.—One of the best meadow and pasture grasses for moist rich soils and sheltered situations; but on dry exposures it is unproductive and dies away in a few years. This grass, contrary to most other grasses, should be cut for hay when the seed is ripe. Its produce is greatest when combined with other grasses, with a proper admixture of which it will double its produce on the same soil. Horses, oxen and sheep, are fond of it.

Festuca Duriuscula, Hard Fescue Grass.—Succeeds best on moist rich lands, and when combined with the Festuca Pratensis and Poa Trivialis. It is one of the best of the fine dwarf growing grasses, well adapted for the food of sheep. It withstands the effects of severe dry weather better than many other more productive grasses, and should always form a part of any mixture of grasses for permanent pastures. For hay it should be cut when in flower.

Trifolium Repens, White Clover.—Sends down its central or tap root to a considerable depth into the ground, which enables it to resist the effects of severe dry weather, particularly on sandy soils; and the branches which trail on the surface give out fibrous roots, which penetrate but a little way into the land; hence it is that this plant thrives on soils of very opposite natures. It is sometimes grown alone for hay, but its principal value is as a component of natural pastures, especially on dry soils.

Trifolium Pratense, Red Clover.—The soil most suitable for the red clover is a deep sandy loam, but it will grow in any dry soil. When cultivated by itself on rich soils, it will produce from two to three tons of fine hay to the acre. The most profitable grass to be sown along with the red clover for hay or pasture, not to exceed four years, is the perennial ryegrass, which is in full perfection at the time the clover is most fit for the scythe.

Agrostis Stolonifera, Creeping Bent Grass or Florin.—The peculiar value of this grass is its lateness of growth, remaining in a great degree inactive until most of the other grasses are exhausted, and affording the earliest and latest mouthful of herbage. It is recommended to be sown on bogs and cold wet lands: it thrives where other grasses would not grow.

Agrostis Stricta, Red Top or Foul Meadow Grass.—The herds grass of the Southern States, is generally sown on boggy soils, producing hay and good pasture where the more valuable grasses would not grow.

Festuca Ovina, Sheep's Fescue Grass.—Has a fine short sweet foliage, forming a good pasturage for sheep, and producing delicate mutton of a fine flavor. Mixed with the Poa trivialis it is recommended for lawns, making a fine thick sward, which seldom requires mowing.

Apium Petroselinum, Parsley.—Sown by British farmers along with clover and grass seeds as a preventive of the rot in sheep. Cattle are fond of it, and hogs eat it with avidity in the autumn.

Achillea Millefolium, Yarrow—Is con-

sidered by English writers upon Agriculture an essential ingredient of the most fattening pastures, and is frequently sown along with the perennial grasses for the purposes of giving a flavor to the milk, butter, mutton, &c.

TRIFOLIUM MEDIUM, Meadow Clover or Cow-grass.—A perennial resembling the red clover, but of dwarfer growth, on strong soils sustaining the effects of severe droughts so well as to continue flowering whilst the surrounding herbage is burnt up. It continues sending up flowering stems the whole season, and is a valuable addition to the white clover in the formation of permanent pastures, especially on light soils.

TRIFOLIUM INCARNATUM, Flesh colored Clover.—Will grow on any soil suitable for the red clover. It is recommended to be sown in August for early Spring fodder, and April for Summer produce; it grows very rapidly and yields a great bulk of green food: from eight to twelve pounds of seed should be sown to the acre.

MEDICAGO SATIVA, Lucerne.—Should be sown on a light, deep and rich soil, either broadcast or in drills ten inches apart, and with or without an accompanying crop of grain. When drilled it is easily cleaned by passing the cultivator between the drills once or twice in the season, which, by destroying the weeds and lightening the surface soil, greatly assists its growth. All labor applied to this crop by destroying weeds, &c., during the first season, is amply repaid by its after luxuriance of growth and valuable quantities,—for soiling, one acre is sufficient for four cattle from May until October. All kind of cattle are fond of it, and for milch cows it is said to be superior to clover in increasing the quantity of butter and quality of the milk. When sown broadcast, it requires from sixteen to twenty pounds of seeds, and in drills from twelve to fourteen pounds to the acre.

VICIA SATIVA, Tare or Vetch.—The Spring or Summer tares are most productive when sown broadcast on clay or any rich soil not too dry, at the rate of two to four bushels an acre. If intended for soiling they should be sown at intervals of a fortnight, from the commencement of mild weather in Spring until the middle of May. The Winter variety has not hitherto been found to succeed in this climate. Horses, cows, sheep, and hogs, are very fond of them; milch cows will give an increase of butter when fed upon them. From eight to twelve tons of green food have been cut from one acre of tares, and they contain a greater portion of nutritive matter than hay or any other herbage.

BRASSICA RAPA, Turnip.—Succeeds best when cultivated in drills on light sandy soils, with the exception of the Swede Turnip or ruta baga, which is best adapted to strong tenacious soils. Manure is essential to the turnip culture, and the kinds most highly recommended are bone dust, or the contents of the barn yard. The bone dust is generally deposited in the drills along with the seed. The barn yard manure should be buried in the ridges made for forming the drills. When sown broadcast the produce is seldom more than half the weight of that drilled on ridges. The middle sized roots of the common turnip are the most valuable for feeding stock, as on the contrary are the ruta baga the largest.

DAUCUS CAROTA, Carrot.—The proper soil for obtaining the carrot in perfection is a deep rich sandy loam, well pulverised by the spade or plough. The mode of sowing is either broadcast or in drills: the former is the easiest and general practice, but when drilled, the quantity of seed required is only one half: the facilities for weeding the crop, and the crop itself, are considerably increased. Preparatory to sowing, the seed should be mixed with five times its bulk of rich sifted soil, and laid in a heap for about a fortnight, during which time it should be repeatedly turned over, and kept moist by repeated waterings to excite vegetation. If manure is applied with the crop, it should be completely rotted and well incorporated with the soil, or the carrots will be apt to become stunted. The long red and altringham are the most productive, but the orange is the most certain crop. The produce on good land is said to be about three hundred bushels an acre. All kinds of cattle are fond of them, particularly horses. Swine are said to fatten sooner on them than any other kind of food, and their flesh is superior.

MANGOLD WURZEL, Field Beet.—Will grow well on any rich deep soil, and in dry seasons yield an abundant crop of roots, which contain a great quantity of nutritive matter, and are excellent food for fattening stock. The seed should be sown in drills, or dibbled in rows two feet apart, and at intervals of six inches in the row, two or three seeds to be put into each hole. From four to six pounds of seed are required for an acre.

[From the Genesee Farmer.]

FERTILIZING PROPERTIES OF LIME.—A correspondent of the Farmer doubts the fertilizing properties of lime. It is with a wish of avoiding, rather than commencing, a controversy, that we propose a few remarks on this interesting subject. We have no expectation of convincing him, but we are desirous of preventing others from being misled. Keeping this object in view, we will carry out his doubts to their legitimate extent.

1. He doubts the experience of all antiquity. Pliny informs us that the Britons were in the constant practice of applying all the calcareous substances with which their country abounded, to the improvement of the soil. The same application was made of these materials by the Romans in the days of Numa.

2. He doubts the septic properties of this substance, by which the animal and vegetable matters in the soil are rapidly made putrescent, and which all chemists concur in believing are decomposed by it.

3. He doubts its power as a solvent, by which vegetable and animal matter are held in a state of solution, and thereby rendered proper food for plants.

4. He doubts its power of diminishing the cohesive and increasing the capillary attraction, whereby the soil is made permeable to the atmosphere, increasing its power of absorption, and rendering it more suitable for the admission of the small fibrous roots of vegetables.

5. He doubts its power, when applied to decomposing vegetable substances, of furnishing the atmosphere with a volatile alkaline combination of hydrogen and azote, denominated ammonia, the most powerful of all promoters of vegetation, as may be seen in all cases where substances that contain it are used as manures.

6. He doubts its power of combining with the carbonaceous matter of soils, and thus breaking down and destroying the texture of such animal and vegetable substances as it may contain, by this means making the whole soluble in water and capable of being taken up by the absorbent roots of plants.

7. He doubts its power of destroying different kinds of insects, such as worms, slugs, grubs, snails, &c. which abound in fresh soils, thus furnishing much nutritious matter for promoting the growth of plants.

8. He doubts its having a greater tendency to combine with mucilaginous matter than with fixed alkalies, by which a kind of calcareous soap is formed, that contributes in its liquid state to the growth of plants.

9. He doubts that when mixed with stiff, clayey soils, possessing too great a degree of humidity, it evolves caloric and other elastic matters, while becoming saturated with the moisture and carbonic acid gas which they contain.

10. He doubts that its fine impalpable powdery state enables it to become minutely incorporated with other earths, thus changing and opening their texture and making them more susceptible of vegetable growth.

11. He doubts that when applied to lands containing sulphuric acid, it combines with this acid, and forms a gypseous compound.

12. He doubts its power of neutralizing any acids prejudicial to vegetation, and thus preventing their injurious effects.

13. He doubts its power, under any circumstances, even when connected with magnesia, of forming a sort of epsom salts in sour lands, which has been shown highly favorable to vegetation in certain quantities.

14. He doubts that its combination with carbonic acid in its fluid state, rendering it soluble in water without expanding it into vapor or gas, supplies carbonic matter for the support of vegetation.

15. He doubts its property of supersaturating, or overloading itself with moisture, and thus imparting it to the roots of plants.

16. He doubts that substances earth contains are combined with phosphorus, producing a kind of vapor which renders the phosphorus soluble in water without becoming an acid.

17. He doubts that substances possessing in the highest degree the food of plants, should be used to feed them.

Having thus doubted the merits of all the theories and experiments of Davy, Darwin, Horne, and Priestley, and all the practical conclusions of Young, Sinclair, Nicholson, &c., as well as the universal experience of the human race, from their first discovery of any of the operations of nature, we have but one step to the adoption of the Berkleyan doctrine of spiritual existences. We have, however, to counteract these "doubtful disputants," the invariable practice of the best agricultural nations, who continue to use it with untiring and increasing industry, with what success let the state of cultivation and fertility in all countries where it is used decide.

We have indeed every reason to believe that in the early stages of human existence, mankind were profoundly ignorant. We are told that mystery Babylon, the mother of harlots, bewitched them with her sorceries, and that to solve her inscrutable enigmas, the first sin of disobedience was committed; we therefore devoutly hope, that although Abraham may have been a better shepherd, and Moses a better chemist, than many leaders of the people in this generation, we shall not, in our agricultural achievements, retrograde to the age of the Patriarchs; and after exploding the lurid and superstitious lights exhibited by the Druids, advocate theories

and urge opinions that would have left their country where it began, instead of making it the garden of the earth.

The present age, notwithstanding the loud cry about utility, seems more occupied with the controversy respecting the modus operandi of lime than upon the practical efficacy made manifest by our crops. We should be gratified if our agricultural friends would be convinced that such controversies are endless. That lime is equally beneficial under all circumstances, and in all the situations and modes of combination under which it may be applied by the ingenuity of man, or elaborated in the alembic of nature, is what no reasonable being would either maintain or believe. But its septic or putrefying properties, which render it so transcendantly useful, are no more to be doubted, than that putrefaction must necessarily precede production. And yet lime, the most powerful septic with which nature has furnished the farmer, is often used for opposite purposes, when so confined as to prevent its combination with atmospheric air and moisture, for which it has a powerful affinity. Sir John Pringle ascertained by the most careful experiments that putrefaction advances quicker in confined than in free air; and yet the fixed air given out in the burning of lime is one of the best anti-septics. Sir Humphrey Davy and Doct. Priestley both concur in stating that by means of this air, which is contained in uncalcined limestone in such large quantities, they not only preserved vegetable and animal matter from decomposition, but restored them after putrefaction had commenced. Sir William Lee washed fresh meat with water that had been impregnated with this carbonic acid gas, two or three times per day, and not only recovered it when tainted, but preserved it afterwards many days; and upon the same principle Dr. Macbride accounted for the well known fact, that lime kilns in the neighborhood of populous cities, by discharging large quantities of this air, corrected and rendered wholesome the air that had been tainted by respiration and putrefaction; and we all use lime as an antiseptic, when the common mode of sprinkling and preserving apples and other vegetables with it is adopted. Hence Sir John Pringle was obliged to account for a conclusion, apparently so repugnant to nature and facts, by ascertaining that the putrid particles in his experiments were kept about the putrefying substances, exciting and promoting fermentation, whereas when exposed they were far the most fugitive; and as the air absorbed by lime after burning is more closely confined in a compost bed, than it is when spread upon the surface, a rational man might easily be led to the conclusion that the putrefactive process would be diminished, when the fact is undeniable that it is accelerated. Sir John Pringle's experiments account for this result—the putrefying particles being confined and placed in contact wirh the remainder of the compost bed, and the air absorbed by lime after burning being better mixed with water than common air, hastens decomposition, and thus a little leaven leaveneth the whole lump.

We could now adduce a number of facts to prove that putrefied substances have been successfully used to preserve others from putrefaction; and that when completely saturated with the putrid effluvium, they are incapable of receiving more. Certain quantities of salt taken in aliment promote decomposition and digestion, whereas other quantities are wonderfully anti-septic. Here then we see abundance of facts to keep men of ingenious and inquiring minds constantly occupied in argument.

We beg leave to caution our brethren against the inference, that when vegetable and animal matter contained in the soil is decomposed and putrefied, it becomes lost. On the contrary, the opposite conclusion is equally just. In this state it is often preserved many years, and it is only by repeatedly removing the productions of the soil without replenishing it, that such land becomes sterile—it is only when vegetable and animal matter is suffered to decompose in the open air that they can be said to be lost; and even then nature returns them in part to the earth by the power of absorption, and also furnishes vegetables with food from this air absorbed by their leaves. Calcined limestone possesses a powerful attraction for moisture as well as for carbonic acid gas—hence the fertilizing properties of this impalpable powder are not diminished by using; the removal of the growing vegetables without replenishing is what is to be guarded against.

While we wish not to be understood as censuring, but rather applauding, those who are engaged in making chemical experiments that enlarge the boundaries of our knowledge, we cordially concur in the opinion of the Ohio correspondent of the Farmer, that agriculture is a practical concern, and that by acting up to the full extent of our knowledge we shall advance the science more than by searching after principles and forming systems upon which we seldom act. We all know but little, and they that know the most know best how little they do know. HOLKHAM.

[From the Cultivator.]

INDIAN CORN. — There is no crop which habit has rendered more indispensable to the wants of our families and our farms than this. The late John Taylor, of Virginia, termed it our "meat, meal, and manure." Holding this high rank in our farm economy, it is a subject of moment to adopt the best mode of culture. As many districts are shy in producing wheat, and as this crop is seriously threatened by the new (to us) wheat insect, it becomes more a matter of solitude to render our corn crops productive. But as this grain demands more labor in its culture than other grain crops, so it is more important, on the score of profit, that it should be well managed: for if thirty bushels an acre be considered only a remuneration for the labor bestowed on the crop, all that the product falls short of this must be a loss —and all that it exceeds, a net gain to the cultivator. The first consideration in regard to the corn crop is to give it a dry mellow soil; the second, that this soil be rich, fat, or fertile; and the third, that the seed be timely put in and the crop well taken care of. Neither wet grounds, nor stiff clays, nor poor grounds, will repay, by their product, the labor required on a crop of corn. He who has no other lands but these, should not attempt to raise it as a field crop. He had better bestow his labor upon other objects, and buy his corn. We think the best preparation for corn is a clover lay, well covered with long manure from the barn-yard, well ploughed—and well harrowed. It is better to give sixty loads of dung to three acres than to ten, upon the ordinary lands of our neighborhood. The difference in product will not make up for the difference in labor. Corn can hardly be dunged too high. What we have to recommend, that is not common in the culture of this crop, is, that double the usual quantity of seed be applied,—the number of plants to be reduced at the weeding—in order to ensure three or four stalks in each hill; that the roots be not broken, nor the manure thrown to the surface by the plough, but that the harrow and cultivator be substituted for it, which will sufficiently mellow the surface and destroy weeds; and that the hills be but slightly earthed. By ploughing and hilling we conceive the manure is wasted, the roots broken and bruised, and limited in their range for food, the crop more exposed to injury from drought, and the labor increased.

If the fodder which the stalks and shucks afford is an object to the farmer, as they certainly will be when their advantages are appreciated, the securing those in good condition is a matter of importance. To effect this, as well as to secure the crop from the effects of early autumnal frosts, we recommend the practice we have long and satisfactorily followed, of cutting the crop at the ground as soon as the corn is glazed, or the surface of the kernels has become hard, and of immediately setting it up in stooks to ripen and cure. This we have always been enabled to do early in September, and once in the last week in August. The quantity of the grain is not impaired, nor the quantity, in our opinion, diminished, by this mode of management, while the fodder is greatly increased, and its quality much improved.

ROOT CULTURE presents many advantages to the stock farmer. Roots are less exhausting to the soil than grain; they are admirably fitted to form a part of a course of crops; are very beneficial in pulverizing the soil; afford abundance of food for grain; and serve to augment and improve the valuable product of the cattle yard. An acre of ground, under good culture, will produce, on a fair average, twenty tons of Swedish turnips, mangel wurzel, carrots, parsnips, or potatoes. Supposing a lean animal to consume one bushel a day, and a fattening animal two bushels, the produce of an acre will then subsist three lean bullocks 110 days, nearly the period of our winter, and three fatting ones 55 days. We merely assume these as reasonable data, and ask if the result does not prove the profitableness of their culture. But we are not permitted to doubt upon this subject, if we credit the testimony of those who have tried them, and whose continuance in the culture is the best proof of their value. Roots enter largely into the system of Flemish husbandry, which has been extolled as inferior to none other; and in many parts of Great Britain, turnips are considered the basis of profitable farming. In our country, root culture is winning its way to notice and to favor. Few who have managed it judiciously have been willing to relinquish it; while others are annually commencing it. The great obstacles to the more rapid extension of the culture among us is the want of experience, the want of proper implements, as drill barrows, cultivators, &c., and the labor of securing the crop in winter. The apparent magnitude of these obstacles is daily diminishing. and we shall ere long discover, that root crops may be cultivated, and secured for winter use, as easily as other farm crops. We have had very little experience in cultivating carrots, parsnips or mangel wurzel, as field crops; but the Swedish turnip has been a favorite crop for some years; and we can truly say, it has been one of the most sure and profitable that we have taken from our grounds.

BARON VAN VOGHT'S PATTERN FARM.—We find in one of our recent foreign agricultural periodicals, the British Farmer's Magazine, some account of the successful experiments in husbandry of this distinguished German, highly worthy of notice. We give an outline of his practice, under the persuasion that it will be found interesting and useful to the readers of the Cultivator.

In 1813, the Baron undertook to improve the condition of an estate denominated Flottbeck, as a pattern farm, and to make it an experimental farm for the north of Germany. In 1829, he had carried his improvements to so high a state of excellence, that he published, for the benefit of the visitors who thronged to see him, a pamphlet, developing the principles, by the adoption of which, his soil, naturally bad, had been raised to a state of high productiveness. It is from a portion of this pamphlet, for we have not seen the whole of it, that we collate the following facts.

The soil of Flottbeck is a mixture of sand and clay. Its original depth of krume [mould] was only 3 inches; the surface was uneven, and the soil wet, water standing for a long time, and manure ineffectual on account of the consequent low temperature. Fields could not be sown, owing to quagmires, often till June. The winter crops were full of tares and perennial rooted weeds; summer crops abounded in wild radish and mustard, the clover with wild chamomile, sorrel, &c., and the fields with dog's grass and other noxious plants. How many of our farms now form a counterpart to this description of Flottbeck?

The means of improving which the baron instituted, to raise the condition and increase the fertility of his farm, consisted principally in

1. Levelling the surface, and thorough drainage.

2. Deepening the krume, or soil, at least one inch a year, till he had gained a depth of 14 inches—this depth being requisite, in his opinion, for the roots of plants to penetrate, and as a reservoir for moisture, to supply the crop in time of dry weather. To obtain this depth, trench ploughing [rayolt] was resorted to when necessary.

3. Increasing the fertility with the increasing depth of the soil, by ploughing in green crops, and by husbanding and judiciously applying manures—the latter applied to the potato and rape crops, and before it had become exhausted by fermentation.

4. Throwing the land into one bout ridges in autumn, [it being generally flat and rather stiff,] and cleaning the intermediate furrows with a double mould-board plough. This operation enriched the soil by atmospheric influence, broke down its stubbornness, and laid it dry, so that the spring operations could be commenced two or three weeks earlier than formerly.

5. Thorough pulverization preparatory to putting in seeds, and giving these only a superficial covering of earth.

6. Graduating, by a scale which the Baron's long observation and numerous experiments had enabled him to contrive, the manure to be applied, to the precise demands of the soil and crop—thus receiving the whole benefit which it was capable of imparting, without loss by excess.

7. A judicious rotation—in which green crops often intervened. The rotation was one of six years, as the clover, which he observes forms the basis of agriculture, cannot return oftener. The intermediate crops were wheat, oats, mixed fodder, barley, rye, potatoes, vetches, rape, &c., the climate of Germany not admitting of the culture of Indian corn.

In 1829, Flottbeck exhibited a far different appearance from what it did in 1813. All the fields showed a level surface—the krume or mould had every where a depth of 14 inches. The fields rendered dry by ditches, and under-water carried off by 27 under-drains—no noxious plants infesting the ground, save the dog's grass, when the clover happened to be frozen out—and the produce so much increased, as that the same area which, in 1813, would yield only 14 bushels rye, in 1829 was found to produce 24 bushels of wheat.

We think there is much in Baron Van Voght's practice that commends itself to the notice of our farmers. The means which he employed are within our reach, and the advantages of using them manifest. The climate of Germany is not very dissimilar to ours, save that ours is rather the most mild. That the readers of the Cultivator may understand the principles upon which the improvements at Flottbeck were based, we subjoin them in the Baron's own words.

"The few general principles adopted here with all kinds of produce are the fruit of thirteen years' experience, and several thousand experiments.

"1. The soil must have 11.280 to 14.100 inches of krume, in order to admit of the roots penetrating into the ground; that in wet weather the water, which in a flat soil might drown the crops, may be absorbed and formed in the deep into a reservoir, from which the extremities of the roots may imbibe a nourishing moisture, impregnated with carbonic gas, which it draws from the manure fermenting in the earth.*

"The krume must have a depth of 14.100 inches, in order that the exhausted surface, being buried at a greater depth, may reimbibe the lost moisture.

"This I obtained by having the land ploughed in autumn, at a depth of about 5,640 to 7.520 inches, then having it finely harrowed, and finally rayolt it with two ploughs, one behind the other, [the last with four animals;] this requires, of course, swing ploughs, as it is absolutely necessary to plough before rayoled.

"The latter operation is usually performed by oxen.

"2. In autumn, all ditches must be opened, and all the drains examined, so that the water may not be stopped in any place.

"3. All rayolt land must be laid in high furrows, by means of ploughing, always two furrows together, after the rayoled and furrowing, so as to make a water furrow at every 16.920 inches, which is deepened and cleaned by means of double struckbuit, [boards fixed to the plough;] with a clayey soil, this operation is *indispensable*.

"The advantage of this mode of treatment is, that it keeps the soil dry, and renders it capable of being cultivated three weeks sooner than other shallow land; that it avoids stiffness, and, on the contrary, the high ridges being frozen through in winter, are found very mellow in the spring. I cannot deny that in autumn this requires four kinds of ploughs, [the two last of which may be considered as only half kinds of ploughs,] instead of one kind generally used on large farms. Moreover, this depth of mould cannot be obtained in less than ten years, when, at the same time, the disadvantage of an inferior subsoil can be repaired by manure, which will add about one inch of mould a year—a method quite impossible on large farms, and on small ones attainable only by a proprietor, and never by a farmer.

"These high furrows are separated in spring with the four horse split plough; if the land is quite clean, it may, after being harrowed in the manner which will be mentioned hereafter, be immediately sown; but if it is not, it is hooked crossways.

"4. All the land which is not rayolt—because there remains from the preceding harvest too much manure on the surface, which, *if the crop should want it*, must not be removed too far—is, if it bears no manure crop, ploughed in autumn, first shallow, then deep, and lastly laid in high furrows. In spring, in which there is as little ploughing as possible, it is, after the splitting, according to the necessity of the crop and soil, first harrowed, and then hooked crossways, or only harrowed in the manner prescribed.

"5. It is a principal maxim to sow a green crop for ploughing in, in the rape seed stubble, as well as in the corn stubble, where no clover has been sown. In August, I use for this purpose rape seed; in the beginning of September, turnips; from the middle of September to the middle of October, rye; then there is but one ploughing in autumn, a method which I recommend on large farms.

"The manure crop is in spring shallowly rayolt in, and is equal in its effects to 3.914 to 5.811 loads of manure per acre.

"6. One observation which led to the most important results, was the certain conviction that it is the vital power of plants which, by the incomprehensible faculty of decomposition and assimila-

* Thaer mentions the following proportion of the value of the soil, with a flat and deep mould. "If," says he, "the soil with a mould of 3 inches is worth 38, that possessed of 5 inches of mould will be worth 50; that of 8, 62; and that of 11, 74;" and this entirely agrees with my experience at Flottbeck. Should we then hesitate to spend a few years, and some manure, thus permanently to enhance the value of our fields?

tion by means of their leaves and stalks, constantly imbibe an incredible quantity of substances, in the shape of gases and manures, and convert them into their own elements, rejecting what they do not want, changing what they have received into a new body, and so continuing till they have formed their blossoms; that the root, which till then keeps growing, and oozing out moisture, only begins, when its growth is perfected, powerfully to decompose that which surrounds it, and alone supports the fruit, whilst the leaves and stalks are fading; that the vital point of the plant has its seat exactly in the centre of the germ, from which it forces the root into the earth and the stalk upwards; that every thing depends, in the first growth of the plant, on keeping this point in health and activity; that this should be done in sowing.

"1. When the surface is as much as possible pulverized, in order that the seed-corn or potato shoot be surrounded by, or rather laid on, earth finely divided, in which the fibres of the root may quickly shoot, and where air, moisture, and warmth, may operate with facility.

"2. When the shoot, laying on such a pulverized surface, being covered only a couple of lines, in order that light, air, warmth, dew, and other atmospheric moistures, may immediately excite the vitality in this point, and thereby promote the developement of the germ, and procure nourishment to the first leaf.

"I refer, with regard to this especially, to the specimens of dried plants kept ready for the inspection of the visitors, which so strikingly show what difference there is in the vital germ lying on the surface, where roots and leaves immediately, numerously, and powerfully shoot from one point, and the weakened vital germ, which, lying at a depth of 1.680 inches, shoots forth few roots, but a white thin tube, which rises as far as the surface, where the knot is formed, whence the weakened germ pushes forth a single and sickly plant.

"The result of this observation was, that we took every possible pains to give to the surface a depth of from 1.880 to 2.820 inches, the necessary state of pulverization, to divide the thickly sown seed equally upon it, and to give it as thin a covering of the pulverised soil as possible. But for this we were entirely without implements.

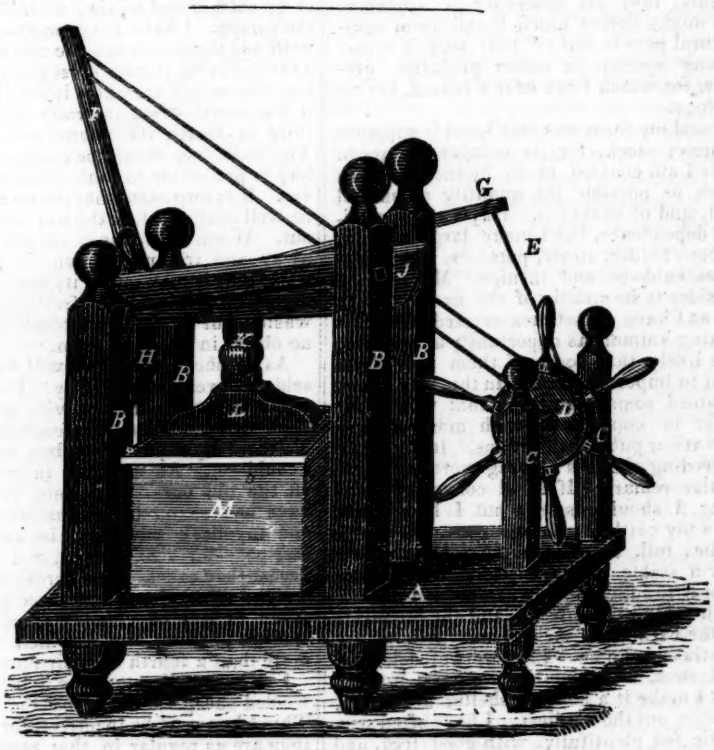
"The grubber, indeed, gave looseness to the surface, but did not destroy the small clods. The roller pressed the soil too firmly, and if it happened to rain, a fresh process became necessary. The usual harrow, with teeth 6.580 inches apart, drew, even in a ground previously harrowed, lines in which the seed sown by the best sower would fall, and then stand too thickly, while a surface of 2.820 inches was left between these lines, which contained few plants, but became a nursery for weeds.

"Then it occurred to us, [after the grubbing and usual harrowing,] to pass with the iron Mecklenburgh harrow reversed, the upper side of it being flat upon the surface, till all the small clods were pressed into a powder; then I had harrows made, the teeth of which are only from 1.410 to 1.880 inches apart, and in the Flemish fashion, placed in a slanting angle. With these we passed sharply over this finely pressed soil, with the horse fastened in the middle, and afterwards in one corner, after which we sowed. The corn came to lie in lines 1.410 apart, and was harrowed in crossways, with the *drag* teeth of the close harrow,* and by this means the seed was but slightly covered, and not a grain displaced.

"By this mode of cultivation it was found that every germ immediately shot forth strong roots and several stems at once; and an experience of several years has shown an increase of produce of from 20 to 30 per cent. occasioned by it, as we continued to cultivate a piece of ground next to it in the usual manner.

"7. I must further mention as the last, but not less important principle and cause of success, that each of the manured fields has been brought to that point of fertility in which it can yield the greatest produce; so that, with less manure, it would not yield its full produce, and more manure would cause the crops to lie down, even if the year were not wet. The difficulty of being able to fix this point for every field and kind of crop with certainty, was removed by the now perfected geometrical method, by which, with the help of a scale formed on twenty years' experience, the degree of productiveness may be marked in which the field has been left in the last crop; i. e. seldom below 100 degrees, which denotes a field capable of yielding 24.02 bushels of wheat per acre, and below which it is not advisable to let a field sink."

* With the teeth slanting forward. They are called *drags* when the teeth slant backwards.



[From the Mechanics' Magazine.]

Description of Scripture's Power Press.

On the platform, A, stand six posts, four long, B B B B, and two short, C C. Between the latter is suspended the windlass, D, upon a horizontal shaft, to which is attached one end of the rope, E, which passes in an inclined direction over a sheave in the upper end of an elevated post, F, the foot of which is secured by bolts, or staples, upon one of the long posts, from which sheave the said rope is returned several times around the shaft of the windlass, D, and is fastened to the outer end of the acting lever, G, the opposite end of which lever is connected by means of an elliptical lever, H, to the power beam, J, which, by the operation of the windlass, D, forces down the moving *fulcrum* and *follower*, K and L, upon the material to be acted upon, M. —When this press is arranged for light pressure, as in the pressing of cheese, &c., a weight suspended upon the end of the acting lever, G, is used instead of the windlass power, as above described.

The proposed advantages of this press, whether employed in heavy or light pressure, is derived from its powerful compound leverage, uniting economy in construction, with facility and simplicity of operation.

This press is well adapted, by a proper variation of its size, to the various purposes of letter pressing, seal and metal stamping, cotton, tobacco, cheese, &c.; for all of which it is manufactured and for sale by Francis S. Lane, No. 279 Bleecker, corner of Barrow street, New-York.

Cattle and Sheep Husbandry. — In a late number of the Genesee Farmer, an invitation was given to farmers generally, to offer what they knew about their own stock. The object I understand to be, that something useful may be culled out of the whole mass.

In treating of my own experience and practice, I frankly own that it will fall short, very much, of that of some of my neighbors; and I have a higher motive than applause for offering this for publication, viz. an apology for a numerous class of farmers, including myself, for not doing better than we do. My farm is small — I bought it almost without fence or buildings. I put on such as were indispensable, as my means would permit; and, to speak safely, I have increased the products of my land 100 per cent. After all, I am a little in debt, and can ill afford to have all that is desirable for the accommodation of animals, such as sheds, stables, &c. Now thousands of our farmers are in the same predicament. They are doing all that their means and knowledge will permit; and instead of censure, they are deserving of applause. We might derive much benefit from agricultural papers, but on that subject a surprising apathy, or rather prejudice, prevails, for which I can offer a reason, but no apology.

I said my farm was small, but it supports a heavy stock, for its number of acres. This I am enabled to do by increasing as much as possible the quantity of animal food, and of saving it. Hay is my principal dependence, but I make large account of corn fodder, straw, potatoes, and sometimes cabbage and turnips. My cattle I consider to be strictly of the native breed; but as I have sometimes crossed with fine looking animals as opportunity has offered, it is likely that some of them may claim akin to imported blood. In this way I have obtained some specimens that would not suffer in comparison with many I have seen at our public exhibitions. In my mode of feeding there is nothing worthy of particular remark. If I had convenient stabling, I should use it; but I had rather have my cattle in the open air, with their bellies full, than have them hungry in a warm stable. I have seldom seen cattle appear to suffer much when bountifully fed, with a high tight fence, and the broadside of the barn for a shelter, and with plenty of straw to lie on. In storms of cold rain and sleet, all animals should be housed, and I make it a point to shelter all I can, leaving out the hardiest. I have often seen cattle fed plentifully, with good feed, and at the same time fall off rapidly in flesh. This is caused by not suiting the quality to the appetite. Straw and butt stalks are good in cold weather, but will not answer when stock is first taken from the pasture—their appetites are poor for dry feed—the best hay should then be given; and as the cold increases, coarser feed may be offered. The same rule should be observed in midwinter, in case of open thawy weather. They will then require better feed. A little attention to this particular will be found of great use—every thing will be eaten and nothing lost, and the mortification be saved, of seeing your stock, in a fine condition, become suddenly poor.

As it is expensive raising cattle from poverty, I hold it bad economy to overstock—the lack of numbers is amply made up by the healthy condition of the few. It is well to err on the safe side. He that stocks within his means will sometimes sell hay to his neighbors, for fifteen dollars per ton, but what can be more ruinous than to purchase at that price, to keep alive a herd of starving cattle. It is the most unpleasant circumstance of a farmer's life.

When cattle have been brought through the winter, to the opening of spring, it is a common error to suppose the task is over. This is a critical time, and cows especially never want so much attention. The best of hay will not be sufficient — potatoes, roots, and other good things, should be resorted to.

I made an experiment last April, with cut hay and shorts, for five new milch cows, which equalled my expectations. My potatoes were expended, and half a bushel of cut hay soaked, and two quarts of shorts were given, morning and evening, to each cow. It was eaten with great avidity, and appeared to satisfy them. I think I shall continue the practice, and recommend it to others.

I have a great opinion of cutting, not only straw, but stalks and hay, but the common mode is laborious.

Broken straw may be profitably disposed of by salting and mixing with hay, even in the spring. I have long practised it, and with advantage—when the straw is long, I have trampled it with horses on the threshing floor—then sprinkled it with brine until it was moist—then intermix the hay—one third or fourth its quantity is sufficient. The finest hay should be chosen, even wild hay is preferable to rank timothy and clover. It is important that the mixing should be well performed, or the hay will be culled out. When it is done it should be stowed away and trampled down in a compact body, that it may retain its moisture. I find my cattle always eat it freely and without waste; but for cows after calving, there is no object in cheating them.

As to sheep, my story will be short. I seldom have more than fifty. I commenced ten or twelve years ago with a dozen of the best I could find, in reference to carcase. To these I put yearly the best merino buck I could get. As my flock increased, I put off the old ones. For some years past I have had saxon bucks, instead of merino, and my flock now may be called saxon merinos—for size, beauty, and weight of fleece, they excel. Last spring the average weight of my fleece was three pounds and seven ounces of clean washed wool, including yearling lambs, which constituted more than a fourth of their number.

I have seen it stated as a fact, that fine wooled sheep did not breed the first year. This I know to be incorrect, for my yearlings are as regular in that respect as my old ones, and rather more so, as I have had several of my best ewes fail annually.

To sum up all, plentiful and judicious feeding is the principal thing in cattle and sheep husbandry. If I thought it would be useful, I would at another time give a description of cattle husbandry on a handsome scale, as practised by a gentleman of my acquaintance. W.

Central-discharging Water Wheel.

New-York, March 18th, 1835.

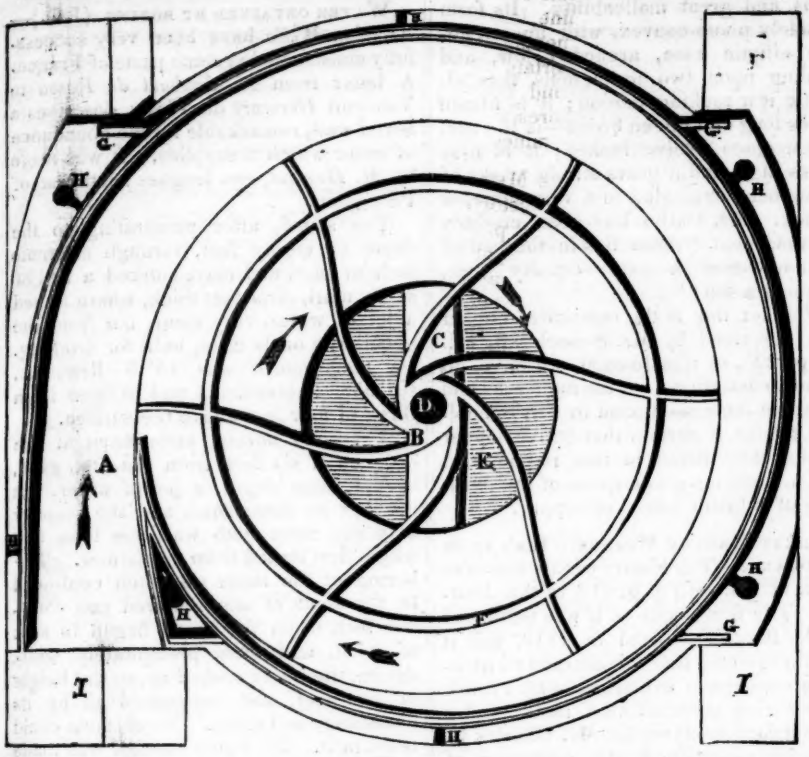
To the Editor of the Mechanics' Magazine:

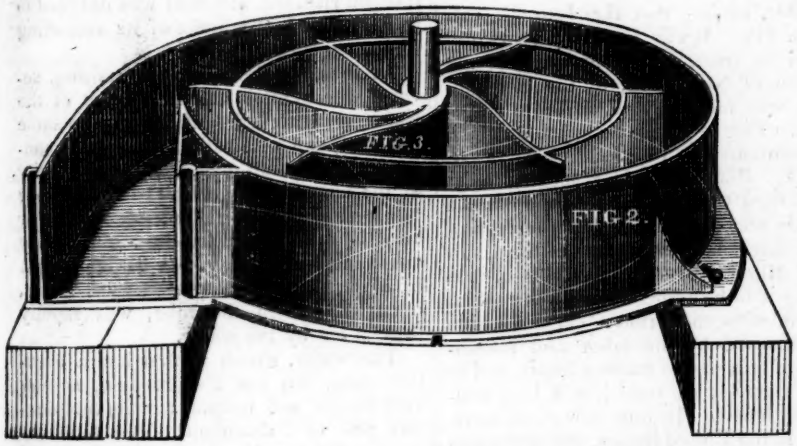
Sir,—I herewith forward you a drawing of Joel Eastman's Central-discharging Water Wheel, patented lately. The inventor died before he had brought it to that degree of perfection it has now attained. The undersigned being a joint patentee, has devoted considerable attention to this wheel, in order that he might present it to the public for their patronage, in a form that would do them, and the wheel itself, justice. This, he thinks, has now been fully attained. During the last year, many of them have been built and put in motion in the western part of New-York, with a degree of success unprecedented. The wheel is adapted to all degrees of head and fall. It runs as well in backwater as out of it, the head being the same. In cold climates, where the ice is troublesome, this wheel is a relief from the difficulty, as it can be so placed that ice cannot form near it. It may be wholly buried in water to effect this object; in which case the shaft must be surrounded with a water-tight case, to prevent the water from coming into the wheel around the shaft, as that would injure its action.

In many instances this wheel has been put in comparison with those before in use, and in every instance the comparison has been very much in its favor. A few facts on this point will be stated in this place, believing they will be acceptable to your readers, and especially interesting to mill owners.

The first wheel which the undersigned put in operation was for Messrs. Ford & Chapman, Clyde, Wayne County. The head and fall in this case was 4 feet; it took the place of a reaching wheel, and was designed to carry two large double carding machines, pecker, and a grindstone. The wheel was made of wood, 4½ feet diameter, 4 arms, or floats, mortiсed through the shaft, 12 inches wide. The throat was 8 inches wide, and 12 inches high, = 96 square inches area of water. The reaching wheel had 12 openings, whose aggregate area amounted to 336 square inches. In this place it should be remarked, that, from the peculiar nature of this wheel, it does not expend the water so fast under the same head and aperture, as in the case of the wheels in common use. When the wheel runs light, or without a load, the difference is one half; in other words, only half as much water is expended as would flow through the same aperture when the wheel is removed out of the way. This has been ascertained by experiment. When the wheel is charged with its ordinary load, the expense of water is one third less than if discharged under the same head and aperture on an undershot wheel; so that in the case above, where the aperture was 96 inches, the expense was only equal to 62 inches.

When this wheel was set to work, it was found to exert more power than the reaching wheel, which the millwrights in this case judged consumed from four to six times as much water. When the operation of fulling commenced, this wheel was found able to finish a stock of cloth in six hours that used to require eight hours by the reaching wheel. This wheel was built and put in motion in three days by four men, and, as may be supposed from the above statement, gave great satisfaction. The proprietors, among the most intelligent mill owners in the State, unsolicited, have furnished me with





a statement of the performance of this wheel, certified.

Another wheel was put in motion in Eldridge. It took the place of a tub wheel, 6½ feet diameter, which received 280 inches of water. This wheel was 5 feet 10 inches, used just one half of the water required by the tub wheel to drive a pair of heavy rock cornstones, and with one half the water it ground faster.

In Courtland County, there are about 20 of these wheels in use, generally with a head and fall of about 5 feet, on a stream very sluggish, and in time of floods the head is sometimes reduced to 16 inches; still the wheel goes, though with less power, bearing a just proportion to the head and fall. The general rate of the performance of this wheel is, that it requires only half the water used on the ordinary undershot, tub, and flutter wheels, and about one third less than a low breast wheel; and, as it is known that the overshot wheel doubles the working effect with some water and head used by the undershot, it follows from analogy that this wheel (being found to do the same) is equal to the overshot in its effect. It has not been tested against an overshot wheel, except in one instance, a common country mill; in this case it exceeded the overshot in effect, but it is not considered a satisfactory experiment. The undersigned, however, is so well convinced that it will equal the overshot in its performance, that he would not hesitate to put it to the test under a heavy forfeiture.

Millwrights, generally, when they first see the plan, are inclined to treat it with utter contempt; which, in every case that has come under observation, has been subdued. When they have seen the wheel at work, they uniformly give it up, and admit that it excels all other wheels for low heads, although its being so small and simple puzzles them to account for the effect.

This wheel is also well adapted for saw-mills. When used for this purpose, the shaft is usually placed horizontal, and the wheel vertical. If the head is less than 6 feet, then the best way to apply it to sawing is to form the wheel of its usual size, varying from 4 to 6 feet, according to head and fall, and gear to the crank shaft by two small bevel wheels. There are several saw mills in operation on both of these plans; that is, when the motion is given directly to the crank shaft by the wheel being on it, and by geraing. The accompanying drawing represents one of these wheels, made entirely of cast iron, except seven screw bolts, to secure it in its place upon a foundation of bed timbers. Fig. 1 represents a plan. Fig. 2, a view of the same in perspective. The circle in which the wheels revolve is 4½ feet, about medium size. Fig. 3 shows the wheel in its place, the floats being connected and supported by a ring of iron near their extremities. A represents the throat, by which the water is admitted, 10 wide by 13 high, forming an aperture of 130 square inches. B on the plan represents the wheel; C, the bed piece, supporting the step of the shaft; D, the shaft; E, the opening in the bottom of the case containing the wheel, by which the water is discharged, 2 feet in diameter, equal to 452 square inches. The general rule is, to make the discharging circular opening about four times the dimensions of the aperture by which the water is admitted on the wheel. F, the ring of support to the floats. G G G, brackets to add strength. H H, &c., holes and notches, to admit of bolts to secure the whole together, and to the bed timbers. I I, bed timbers.

The top of the case, in which the wheel revolves, is not shown in the drawing; it is made to fit on the top edge of the rim, forming the spiral exterior of the wheel; a groove of slight depth is formed in it, to admit of making it tight. The throat enlarges outward, and at its extremity on either side is provided with vertical grooves, the more readily to admit of connecting it with the flume. A wheel of this size will weigh from 2000 to 2500 lbs., and can be put up, all expense included, for about $150. Nearly all the wheels in use are made of wood, in the following manner, viz.: a course of 2½ or 3 inch plank is laid level in the bed timbers; the rim, or circumference, is formed of timber framed together at the corners, and curved out so as to form the proper inside shape. The top is to be formed also of plank jointed together, and the whole well secured together; an opening must be left through the top, to admit the shaft to turn freely, without rubbing.

The periphery of the wheel case varies as much from a true circle as is equal to the breadth of the throat. A convenient mechanical method of generating this spiral curv eare follows: when the breadth

of the throat is determined on, prepare a circular piece of wood, whose circumference is equal to the breadth of the throat; plant this circle exactly in the centre of the shaft; then fasten a small wire to the side of the circle opposite the throat, and in a loop prepared for the purpose, put the point of the scribe, and proceed to trace the curve; when an entire revolution is made, the wire will be wound once around the circular plane in the centre, and of course the radius will be shortened just the breadth of the throat. This is a convenient and true method of generating the required spiral curve.

In conclusion, it may be remarked that this wheel is entirely new; in form it is very simple, small in bulk, having no friction except on the journal of the shaft, and the friction of the water in passing through the case. When the head and fall is eight feet and upwards, no gearing is necessary to give the proper motion to millstones; and when the head of water is below eight feet, single gearing, quite small, is all that is necessary. This wheel runs nearer the motion of the water than any other; and from the known effects of its operation, it clearly proves that water, when acting by its impulsive force, if such force can be intercepted, as is the case in this wheel, yields its maximum effect, equal gravity.

Having thus, sir, at some length, given a description of this new wheel, and the mode in which it may be constructed, should you deem it worthy, you are at liberty to give it a place in your valuable journal. The right to use this invention in all the States and Territories, except Delaware, New-Jersey, New-York, and the Eastern States, is not disposed of. Persons wishing to purchase the right for a State, County, Town, River, or a single dam, will be met on liberal terms by addressing me, post-paid, at this place. The wheel must, in all cases, be properly portioned to the head and fall in any given case, and the power required.

Yours respectfully,

JOHN MARTINEAU.

[From the "American Journal of Science and the Arts," for January, 1835.]

LARGE MASS OF NATIVE COPPER.—The cabinet of Yale College has been recently enriched by a magnificent piece of native copper, presented by Mr. J. Mortimer Catlin, of New-York. In a letter to the editor, dated October 9, 1834, Mr. C. mentions that this piece of copper was found at or near the river On-ta-naw-gaw of Lake Superior; and, as we are informed, above the rapids marked on the map of the river. Those who brought it away were allured by the vain hope of finding in it gold or silver. Its weight was one hundred and thirty-seven pounds, but is now somewhat less, as a few ounces have been detached. It has all the characters of native copper; the perfect color and lustre of that metal; the occasional incrustation of green carbonate of copper; numerous rudiments of crystals of copper, with triangular faces; occasional cavities, swellings, and knobs, and great malleability. Its form is rudely plano-convex, with an irregularly elliptic base, arched below, and standing upon two projections, thus allowing it a rocking motion; it is fifteen inches long and fifteen broad—in the narrowest place twelve inches; it is nine inches high, and it bears strong marks of having been entangled in a vein stone, or a rock. Mr. Catlin has been credibly informed, that "there lies in the bed of On-ta-naw-gaw a mass equally pure, weighing a ton!"

Whether this is the celebrated copper rock described by Mr. Schoolcraft, vol. iii., p. 205, of this Journal, we have no means to determine, but the numerous and important facts mentioned by Mr. Schoolcraft render it certain that native copper is frequently found in that region, and lead to a strong presumption of the existence of valuable mines of copper.

GREAT MASS OF METEORIC IRON FROM LOUISIANA.—The history of this iron was given in vol. viii., at p. 218, of this Journal. The first notice of it was published in Dr. Bruce's Journal in 1810, and it was there stated that it contained no nickel; a subsequent examination by Professor Silliman detected that metal, and a more exact analysis by Mr. Charles U. Shepard ascertained the existence of 9.67 per cent. of nickel in this very remarkable mass. See this Journal, vol. xvi., p. 217. It was, for many years, deposited in trust, in the Museum of the Lyceum of New-York, by the late Col. Gibbs, who had early purchased the specimen. That gentleman's lamented death was mentioned in this Journal, vol. xxv., p. 214. Recently, his respected lady, Mrs. Laura Gibbs, with the approbation of those concerned, has generously presented this magnificent mass to the Cabinet of Mineralogy of Yale College, thus causing it to be associated with the splendid collection, the GIBBS CABINET, which was amassed by the labor and munificence of him whose name it bears, and to whose memory we trust it will long continue to honor. In this collection, unrivalled in the United States, and surpassed in few other countries, the Meteoric Iron of Louisiana is, without doubt, the most important specimen.

A more particular notice of it may be given on another occasion. Its length is three feet four and a half inches, its greatest breadth two feet four inches, and its greatest height sixteen inches. Its weight is sixteen hundred and thirty-five* pounds, being more than that of the mass found by Professor Pallas in Siberia, which is now in the Imperial Museum at St. Petersburgh.

The GIBBS METEORIC IRON is, therefore, the largest piece in any collection in the world, although there are masses many times larger lying in the wild regions of Mexico and Peru, and perhaps elsewhere.

* The weight was reported, in Dr. Bruce's Journal, to be over three thousand pounds, which exaggerated statement has been often repeated, and was probably derived from the adventurers who brought it from the Red River.

WATER OBTAINED BY BORING. (J.G.)—*Artesian Wells* have been very successfully constructed in some parts of France. A letter from *M. Jauburt de Passa* to Viscount *Hericart de Thury*, describes a bored well, remarkable for the abundance of water which it supplies. It was made by *M. Durand*, two leagues southeast of Perpignan.

The sound, after penetrating to the depth of eighty feet, through alternate beds of marl and clay, entered a bed of sandy marl, three feet thick, where issued a jet of water, very clear, but from the peculiarity of its taste, unfit for drinking. Its temperature was 14°.5 Reaumur, (= 65° Fahrenheit,) and it rose from three to four feet above the surface.

A second boring, undertaken at the distance of six feet from the first, gave, at the same depth, a jet of water, but the first jet diminished, and the quantity of water from both was less than that which first issued from the former. The boring of the latter was then continued to the depth of one hundred and forty-five feet, when the sound began to sink of itself, and when precipitately withdrawn, the water rushed up, to the height of five feet, and astonished all by its abundance and force. No obstacle could restrain it. No direct attempt was made to determine the maximum height to which it might rise, but fifty feet was decreed to be fully within the limits of its ascending force.

At the time the letter was written, several weeks after the first issue of the water, it continued to flow with the same violence, and with rather increased quantity. From the dimensions and velocity of the current, it appeared to supply four hundred and thirty gallons per minute, or two thousand eight hundred and eighty cubic metres per day. A leaden weight of eight pounds, supported by a string, being placed in the tube, was rapidly thrown out by the water.

The water, which at first had a peculiar taste, but not disagreeable, is now very limpid and insipid, and its temperature 66° of Fahrenheit. The total expense of the well was two hundred and sixty-three francs.—[Bull. D'Encouragement, Sept., 1833.]

BRICK MACHINE.—We have received a letter from Mr. Harkness, saying that the title we gave to the brick machine, viz. "Harkness' Patent Brick Machine," is erroneous, and desires us to publish the following extract from his pamphlet, which we do.

"The machine described in the succeeding pages is a *new* invention, for which a patent will be obtained in the course of a short time, either in the name of Nathan Sawyer, or in the name of Mr. Sawyer, Mr. Freelove, and myself. The application of the straightening joint to the pressing of bricks, and the use of the crank, was, I believe, first suggested by Mr. Sawyer. The general details of the machine, set forth in the annexed pamphlet, are, with the above exceptions, strictly my own."